

POPULAR PHOTOGRAPHY



NEW!
Fujifilm
X-Pro2
HANDS-ON REVIEW



HOW TO TAKE GREAT PICTURES

PORTRAITS IN BLACK- AND-WHITE

Three pros
share their
secrets for
people shots
with character

How to Tell
Your Travel Story
in Pictures

Special
Effects Without
Software





GREGORY CREWDSON
PHOTOGRAPHED BY TIM MANTOANI

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Many of the world's top photo portraitists prefer black-and-white for the focus, three-dimensionality, and simplicity it lends to people pictures. Never tried it? What are you waiting for?

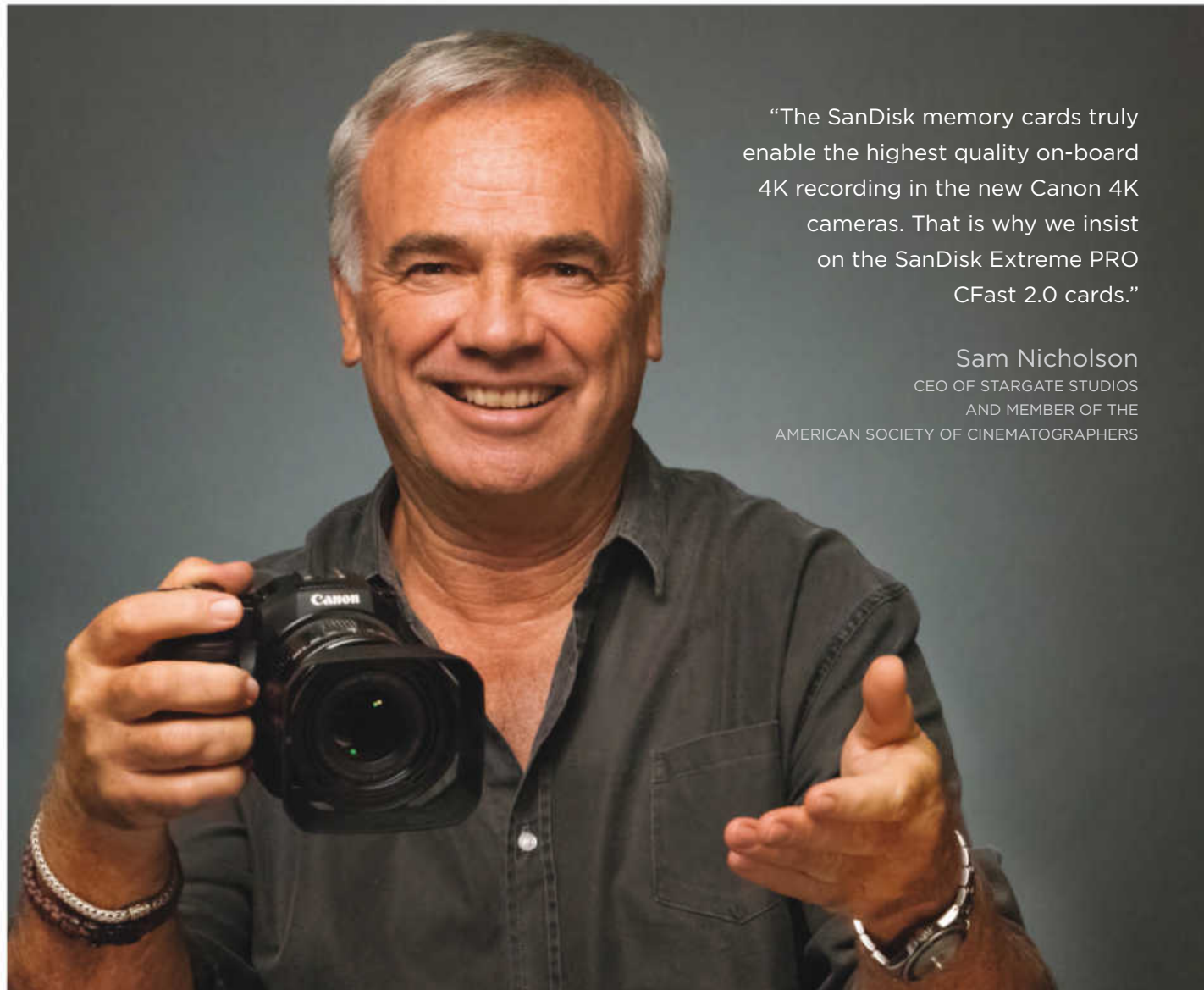
By Peter Kolonia



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COVERS: MELANIE DUNEAL/CP (TIMES SQUARE), IMA MFON (HEADSHOT); SATOSHI (CAMERA); MARTIN PARR/MAGNUM (TENT TOP, QUEEN, DERBY LADIES); IMA MFON (B&W HEADSHOT, LEFT); SANDRO BAEBLER (B&W HEADSHOT, CENTER); MELANIE DUNEAL/CP (TIMES SQUARE), NEXT PAGE: BILL DEBBLE (FLOWERS); SEBASTIAN GORA (SEASCAPE).



"The SanDisk memory cards truly enable the highest quality on-board 4K recording in the new Canon 4K cameras. That is why we insist on the SanDisk Extreme PRO CFast 2.0 cards."

Sam Nicholson

CEO OF STARGATE STUDIOS

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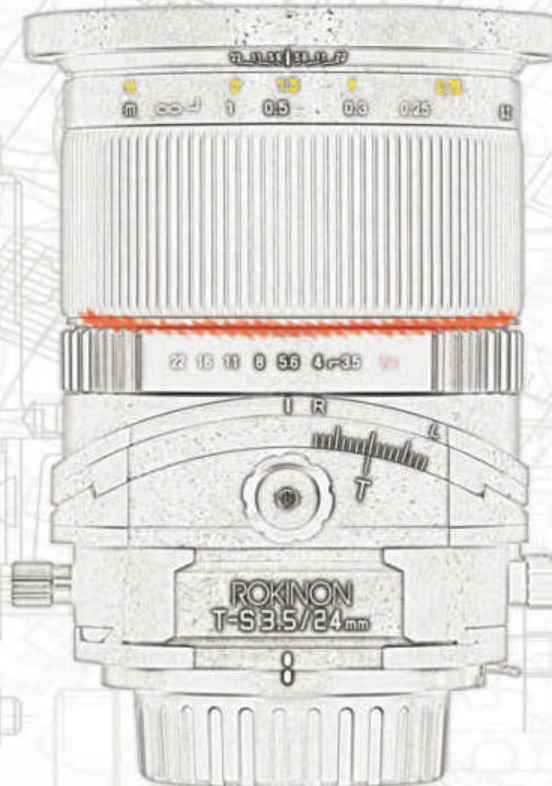
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PETER HURLEY

Inside a Fujifilm Factory

Covered head-to-toe in lint-free fabric, from the double-layered hood to the surgical mask to the padded booties, how could I resist taking a selfie? Along with about

two dozen other visitors, I was about to enter the “clean room” at Fujifilm Optics Co., Ltd.’s Taiwa Factory north of Sendai, Japan.

We’d be able to photograph (with some restrictions) and take notes on special dust-free paper—after passing through a chamber lined with air nozzles to blow off any motes that might cling to our gear.

No wonder my hosts took such precautions. Inside we would observe two production lines as workers in outfits identical to ours assembled, inspected, and fine-tuned hundreds of new Fujinon XF100–400mm f/4.5–5.6 R LM OIS WR and XF35mm f/2 R WR lenses. If you hate getting grit on your lens, imagine how upset you’d be to discover some inside it!

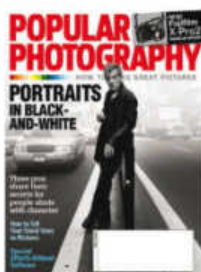
Although Fujifilm makes its glass elements elsewhere, this pristine room is where they get cemented together into groups, coated, and combined with the mechanical and electronic parts that make them work. These two models, like all WR lenses, also get weather sealing. Each lens undergoes inspections and tests, ensuring that quality issues are addressed on the spot. (Alas, testing was the one thing we were not allowed to photograph—I would have loved to have shown it to our own lens tester and lab manager, Julia Silber.)

The process combines a lot of painstaking handwork with some automation. Each image-stabilized 100–400mm zoom takes about 220 minutes to finish. Putting together each 35mm prime takes about 80 minutes. The factory chief told us that most complex part of Fujifilm’s lens manufacturing process is the testing system to maintain quality, especially resolution. Dust inspection, for instance, is now done with highly accurate, automated machinery, and the factory’s instruments can detect a micron-level of displacement in the glass.

In another part of the Taiwa factory, we saw hand-assembly lines for Fujifilm’s X-T1 and new X-Pro2 cameras. The top section of the X-T1 alone has 200 tiny parts. As for the X-Pro2, the plant makes about 800 per day.

For photographers, the proof of quality is in the shooting. You’ll find our hands-on review on page 64 and, by the time you read this, the full results from our own Test Lab will be posted online at PopPhoto.com/X-Pro2. Want to see some of my photos from the tour? Check out at PopPhoto.com/Fujifilm-factory. As for that selfie, you’ll find it on the *Popular Photography* Facebook page.

Miriam Leuchter



NEWSSTAND The new Fujifilm X-Pro2 interchangeable-lens compact, photographed for us by Satoshi, is ready to hit the streets. Read about it, page 64.

SUBSCRIBER We had to obscure the top of Melanie Dunea’s photo of Sir Ian McKellen in Times Square for our cover, but you can see her original in “Portraits in Monochrome,” page 52.

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Introducing Blackmagic URSA Mini, the lightweight Super 35 4.6K digital film camera with 15 stops of dynamic range!

Introducing URSA Mini, a handheld Super 35 digital film camera with an incredible 4.6K image sensor and a massive 15 stops of dynamic range! The super compact and lightweight design is perfectly balanced, making it comfortable enough for all day shooting. URSA Mini lets you shoot at up to 60fps, features a 5" foldout viewfinder, dual RAW and ProRes recorders, and more!

Incredible 4.6K Sensor

URSA Mini can capture images at a resolution and dynamic range that goes well beyond that of traditional motion picture film so you can shoot your own epic, cinematic masterpiece! You can capture images up to 4608 x 2592, which is larger than 4K DCI, with 15 stops of dynamic range so you get incredibly clean pictures with amazing detail in everything from the darkest shadows to the brightest highlights! URSA Mini can record 4.6K at up to 60fps, or 1080 HD at up to 120fps.

Lightweight and Portable

URSA Mini's perfectly balanced body is made out of space aged magnesium alloys so it's rugged, yet lightweight and comfortable enough to be used all day. You get a super bright 5" fold out touch screen for on-set monitoring, that can also display overlays for timecode, histograms, audio meters, focus peaking and more! URSA Mini features full size, professional connectors, even 12G-SDI, so you don't need custom cables, plus high quality stereo microphones and a side grip mounted on a standard rosette.

Completely Customizable

Blackmagic URSA Mini is completely customizable so you can create a rig that's built specifically for your production! Add accessories like the Blackmagic URSA Viewfinder and Blackmagic URSA Mini Shoulder Kit, or choose from hundreds of third party accessories. URSA Mini has 9 standard 1/4" threaded mounting points on the top and bottom of the camera so you can mount it directly to a tripod as well as add accessories such as rails, matte boxes and more.

Non-Stop Recording

You never have to stop recording because URSA Mini features two CFast 2.0 recorders! When one card is full, recording automatically continues onto the next. URSA Mini uses the latest, incredibly fast CFast 2.0 technology for recording speeds up to 350 MB/s. Wide dynamic range images are saved as 12-bit RAW files, which are perfect for high end grading and effects work, or as broadcast quality ProRes, for easy post production workflows with minimum storage requirements!



Blackmagic URSA Mini Models

Blackmagic URSA Mini 4K EF	\$2,995
Blackmagic URSA Mini 4K PL	\$3,495
Blackmagic URSA Mini 4.6K EF	\$4,995
Blackmagic URSA Mini 4.6K PL	\$5,495

All models include DaVinci Resolve 12 Studio

www.blackmagicdesign.com

Electronic Viewfinder, lens and accessories sold separately.

SHOWCASE PHOTOGRAPH BY DANIEL M. HARRIS & JOHN W. M. BUSH



DANIEL M. HARRIS AND JOHN W. M. BUSH

An abstract, high-contrast image showing concentric, swirling patterns of red, orange, and blue, resembling fluid droplets or ripples on a liquid surface. The colors transition from deep red at the top to a dark blue at the bottom, with intricate, organic shapes in between.

Walk On Water

Scientific and fine-art photography usually reside at opposite ends of the aesthetic spectrum, but not in the hands of Daniel M. Harris. This 27-year-old Ph. D. research scientist at the University of North Carolina (Chapel Hill) produced this image with the help of his MIT thesis advisor John W.M. Bush and a DSLR. “It’s part of an ongoing investigation into the behavior of fluid droplets as they bounce across the surface of vibrating fluids,” explains the doctor of applied mathematics. The hard part? “Droplets sort of walk across the liquid’s surface and it’s hard to keep them sharp and correctly aligned to the background pattern,” he answers.

TECH INFO: Canon EOS Rebel T1i and EF-S 60mm f/2.8 Macro USM lens and Canon Macro Twin Lite MT-24EX flash; exposure, 1/4000 sec at f/8, ISO 200.

NEXT

**Top-Shelf DSLRs
from Canon and
Nikon P.14**

**LED Lighting
Roundup P.16**

THE HOTTEST NEW STUFF AND THE TECH TRENDS BEHIND IT

JUST OUT

COOL TOOLS

Wide-Angle Action ▶

360 FLY With its single 240-degree vertical and 360-degree horizontal ultra-fisheye eight-element lens, this action cam won't capture a full spherical view, but it will make 1504x1504 square videos that can be shared through iOS and Android apps thanks to Wi-Fi and Bluetooth connectivity. It also stores 32GB internally. **\$400, street; 360fly.com**



DX Dynamo ▶

NIKON D500

The new flagship body in Nikon's APS-C-sensor DX line, it has a 20.9MP CMOS chip and boasts an ISO range expandable up to 1,640,000 as well as 4K video recording. With the ability to lock onto subjects with 153 autofocus points and to shoot up to 10 fps, this tough DSLR can put out if you shell out. **\$1,997, street; nikonusa.com**



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OLYMPUS M.

ZUIKO DIGITAL ED 300MM F/4 IS PRO This 600mm equivalent for Micro Four Thirds ILCs is Olympus's first MFT lens with image stabilization for an extra 6 stops of shutter-speed control when combined with the sensor-shift stabilization in its most recent bodies. Seventeen seals keep out dust and moisture. **\$2,500, street; olympusamerica.com**





**DSLR
ZOOM**

◀ Wide and Fast

TOKINA AT-X 14-20MM F/2.8 PRO DX

Among the brand's wide-angle zooms, this is Tokina's fastest for APS-C-sensor cameras, delivering an equivalent 22.4–32mm focal range on Canon DSLRs or 21–30mm on Nikons. Its new optical configuration includes three aspherical and four super-low-dispersion elements to fight distortion and color fringing. **\$899, street; tokinalens.com**



▼ Zippy Zoom

CANON POWERSHOT SX540 HS

A fixed-lens compact that packs a 20.3MP punch, this 1/2.3-inch-sensor shooter features an expansive equivalent zoom range of 24–120mm. Optical image stabilization, 1080p video capture at up to 60 frames per second, and built-in Wi-Fi sweeten the deal. **\$399, street; usa.canon.com**



◀ Comely Compact

FUJIFILM X-70

One of several additions to Fujifilm's small form-factor X line, this camera integrates a fixed 18.5mm (25mm full-frame equivalent) f/2.8 lens into a handsome 16.3MP body. An APS-C-sized X-Trans CMOS II chip allows for low-light sensitivity to ISO 51,200, while a new autofocus system lets you select from 49 AF points or lets the camera track across 77 points. **\$700, street; fujifilmusa.com**



Light, Camera, Action!

◀ ACTIVEON SOLAR X

A great solution for action camera users far afield, this kit includes a solar charging station that powers the shooting unit using either sunlight or an electrical outlet via USB. The camera itself delivers 4K-resolution video, built-in Wi-Fi, and a 2-inch touchscreen. **\$429, street; activeon.com**



▶ Portable Power

FLASHPOINT STREAKLIGHT TTL

Pack studio-strobe power in your camera bag with this 360 watt-second light available for Canon and Nikon cameras. On or off camera, the StreakLight incorporates TTL capabilities like exposure bracketing and high-speed sync, and you can even use it as a master controller for proprietary flashes. **\$490, direct; adorama.com**



**RADIO
STROBE**

F.Y.I.

KODAK recently announced that it would celebrate 50 years of making Super 8 motion picture film by launching an initiative to restore interest in the medium. It plans to release a new Super 8 movie camera that will incorporate digital capabilities along with a new processing service, providing a digital file along with the developed film reel.

NIKON plans to enter the crowded action-camera market with its KeyMission 360. The camera, set for a spring release, will capture 4K video in 360-degree spherical format using two lenses; it will be waterproof down to 100 feet.

SAMSUNG showed off a 2TB portable solid-state drive (SSD) to be sold this spring. The USB 3 bus-powered drive is aimed at still and video photographers whose increasingly large files demand high-capacity on-the-go storage.

THE LOWDOWN

ZEISS, known for its high-end lenses, announced that it will be bringing its optics to the world of smartphone photography. In partnership with ExoLens, Zeiss plans to release wide-angle, telephoto, and macro lenses as accessories for Apple's iPhone 6 and 6S line in late spring or early summer.



BIG GUNS

Canon and Nikon refresh their top pro-level DSLRs

JUST AS Nikon showed off its new D5 at the Las Vegas Convention Center in January's CES 2016, Canon was preparing to announce its newest pro-level DSLR, the EOS-1Dx Mark II. Both have full-frame CMOS sensors: the Nikon's is 20.8MP while the Canon's is 20.2MP. As is typical for cameras in this class, both are built like tanks, with extensive weather resistance and rugged bodies.

Targeting difficult shooting conditions, both cameras include revamped autofocus systems. Nikon's includes 153 points, 99 of which are cross-type and 15 of which support a maximum (or equivalent maximum) aperture of f/8. However, you can select only from 55 points (35 cross-type, 9 supporting f/8) if you want to choose your AF point. It's rated to focus

STANDOUT SPECS

SENSORS: 20.2MP full-frame CMOS (Canon); 20.8MP full-frame CMOS (Nikon)

SENSITIVITY: ISO 100–409,600 (Canon); ISO 50–3,280,000 (Nikon)

BURST RATES: 14 fps or 16 fps with mirror lock-up (Canon); 12 fps or 14 fps with mirror lock-up (Nikon)

PRICES: \$6,000, body only (Canon); \$6,500, body only (Nikon)

INFO: canoneos.com; nikonusa.com

down to the extremely dim level of EV –4. Canon's system is rated down to EV –3, but includes 61 points, all of which are sensitive to f/8; the points are spread out to cover a larger portion of the frame than they did in the original 1Dx. For videographers, the 1Dx Mark II is the first full-frame DSLR to include Canon's Dual-Pixel CMOS AF for smooth video focusing.

Both cameras can capture 4K, though the Canon will go up to 60 frames per second, while the Nikon tops out at 30 fps for such high-res video. For 1920x1080p footage, the D5 will shoot at up to 60 fps versus 120 fps with the 1Dx Mark II. Both sport built-in stereo mics and have inputs for external stereo mics, plus headphone jacks for monitoring.

Sensitivity is boosted in both cameras. The Canon covers ISO 100–51,200 in its standard range and reaches up to a ISO 409,600 equivalent. Nikon pushed much further, though. The D5 covers ISO

100–102,400 in its standard range and expands to cover an equivalent of ISO 50–3,280,000 (yes, 3.28 million). This is the first time Nikon has upped the range to Hi5, so it's unclear how noisy images will be at the top setting. Still, it's beyond the sensitivity imagined a few years ago.

Memory card options abound in these cameras. The Canon has one CompactFlash slot and one CFast 2.0 slot—the first consumer-grade Canon DSLR to include CFast. The Nikon D5 comes with either a pair of Compact Flash slots or a pair of XQD slots. We hoped the CFast-versus-XQD war would've resolved, but it's nice to see some progress.

As is often the case, the top DSLRs from Canon and Nikon remain quite similar. With nearly the same pixel count, equivalent build quality, and minor differences in video and core systems such as AF and metering, both Canon and Nikon shooters should celebrate.

—Philip Ryan

PortraitPro 15

OUT NOW

"Whether you're looking for a simple method to just soften blemishes and smooth skin, or you want to go full gonzo and totally reimagine a subject, PortraitPro 15 is the tool you're looking for."

Steve Bedell, Shutterbug Feb 2016

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COOL PICKS

ONLY RECENTLY have tiny but powerful LED lights started to live up to their full potential for both still and video photographers. New panels power up quicker, weigh less, and use electricity more efficiently than their incandescent equivalents. Here are some with unique qualities.

1 Rosco LitePad Axiom 90 Daylight 6x6 \$237

This small panel, calibrated to a 5800 Kelvin (daylight) color temperature, has a quick-release mounting system and integrated gel slot. You can vary the output with an accessory dimmer (\$105, street). **HOT:** Its bounced-light design protects your subject's eyes. **NOT:** Comes in two fixed color-temp models, not ideal for videographers who need versatility. rosco.com

2 Flolight BladeLight 18-inch \$399 Though long and thin, the BladeLight is highly versatile. A unique lensing system lets you focus light in four beam angles, from 20 to 120 degrees, further controllable with included barn doors. It also comes in a 36-inch version. **HOT:** Control brightness via iPhone or Android app. **NOT:** Separate models for 3200 K and 5600 K color temps as well as bi-color and green-screen. floodlight.com

3 Cineo Matchbox LED Light Kit \$463 Cineo removed the phosphor layer that other studio lights use over blue LEDs to give them a yellowish hue the eye sees as white. This lets you choose the color of the light using accessory panels keyed to specific color temperatures; the kit ships with tungsten- and daylight-balanced panels. **HOT:** Highly accurate color rendering. **NOT:** You'll have to buy extra panels for other color temps. cineolighting.com

4 Aputure Light Storm LS 1c \$695 With 1,536 individual LEDs, this light panel produces a 45-degree beam that can be modified with reflective barn doors (included). A controller lets you vary brightness and color temperature from 3200 to 5600 K; power it with a Sony V or Anton Bauer battery. **HOT:** Studio techs will love its DMX connectivity. **NOT:** Beam angle may be too narrow for those looking for a wide-throw light. aputure.com

5 BBS Pipeline Remote Phospor LED Reporter Kit \$850 This pair of 5600 K Pipelines is ideal for photojournalists. Designed for intimate portraits or interviews, they emit 1000 lumens in 180 degrees while drawing only 10 watts of power each. Included are two mini-tripod bases and a multi-voltage AC power supply. **HOT:** Fast setup; small footprint; silent operation. **NOT:** May not be strong enough for big jobs. bbslighting.com

6 Lumos 200 GT Multi-Kelvin \$1,104 The Lumos emits an 85-degree beam angle with the equivalent brightness of a 260-watt tungsten bulb, while providing flicker-free dimming and variable color temperature from 3200 to 5600 K. Use it on location with power from Sony V or Anton Bauer batteries (optional). **HOT:** The back has a digital display. **NOT:** Despite its capability, the high price tag may keep some away. lumosusa.com

7 Westcott Flex 1x2 Bicolor Mat \$1,300 Try wrapping your subject with this unique 1x2-foot flexible LED mat. With 576 diodes, the soft panel is fully dimmable and offers color temp in either 2800 or 6000 K. Roll it up and take it just about anywhere—it weighs just 1.25 pounds! **HOT:** Illuminates in places and ways rigid lights can't. **NOT:** Might not have enough practical applications for those on a budget. fjwestcott.com





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3 Secrets

FOR CREATING MORE NATURAL PORTRAITS.

Let's say you get hired by a company to come in and shoot portraits for their website or social media. When you get your first subject in front of the camera, how is that person most likely to pose for you?

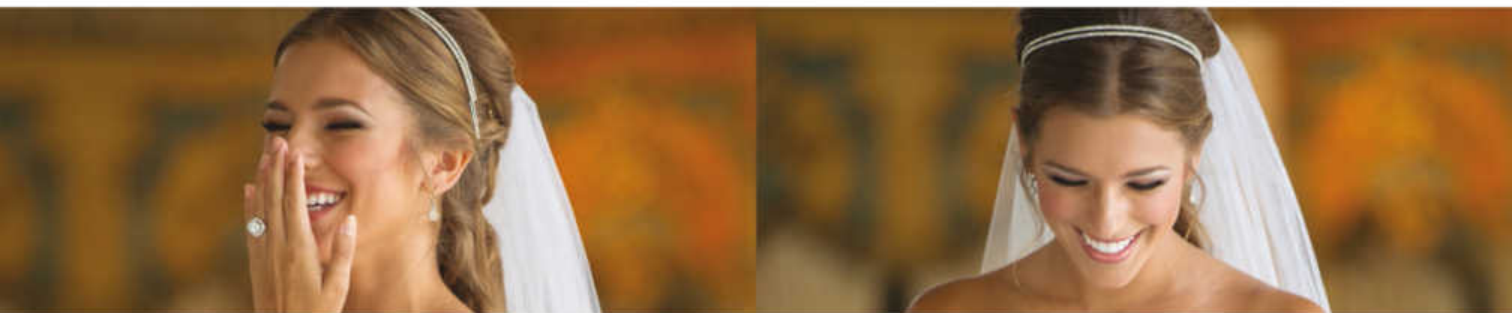
Experience tells us they are going to stand there with their arms at their side, facing straight toward the camera. And when you're about to take the shot, they're going to briefly give you a fake smile.

At this point, instead of having their shoulders flush towards the camera, maybe you could have them angle their body for a more flattering look. That straight-on look is great for athletes, but isn't always the most flattering for the rest of us. Maybe you do something with their arms so they're not just hanging at their sides. But then when you take the shot, here comes that fake smile again. That's their "please, just take the picture" smile and they've done it for years, so they have it down.

It'll probably go on like this for about ten minutes, until the next person, who is also pretty uncomfortable being in front of the camera, comes in for their portrait. Sounds like a recipe for some really stiff-looking, posed images.

Nobody wants images that look posed. Nobody wants to see fake, forced smiles. Nobody wants to see people looking uncomfortable. But sadly, that's what we wind up walking away with because that's what our subjects give us. That's not their fault. It's ours. As the photographer, we're supposed to bring out their real expressions, their real smiles, and their real emotions. We're supposed to create an image that captures the real personality of our subjects.

So how do we get there? Let's start with three tips that are part of a proven method for natural-looking portraits.



TIP #1: STOP MESSING WITH THE LIGHTING

We're not saying you shouldn't have nice lighting, but less is more. Use just one light, if you can, with a large softbox. The larger the softbox, the more beautiful the light and the more forgiving it is on placement. Once you've got your lighting in place, stop messing with it. The lighting isn't going to create a more authentic expression. It's easy to get sucked into this technical aspect of the portrait, which keeps you from getting to the real heart of it.

TIP #2: DON'T STOP TALKING

Unless they are a professional model, the person in front of your camera is probably pretty uncomfortable being in front of the camera. If you get quiet and just stand there silently shooting shot after shot, they get worried. "Why are they taking so many shots? Do I look bad? Are they not happy with how I look?" When your subject starts to feel more self-conscious, they start to get that "please, just let this be over" look, and you're pretty much sunk.

Keep talking to them the whole time, with the goal of making them feel like they're doing a great job. When you see top pros working with experienced models, they're still talking and encouraging them the whole time. They know it makes a difference. And if it makes a difference with an experienced model, imagine how much the Vice President of Sales needs it when you're taking their portrait.

TIP #3: (THE BIG SECRET): LOOK FOR THE SHOT "BETWEEN" THE SHOTS

Once your subject gets into their standard pose of arms to the side and a fake smile, go ahead and take the shot even though you know you're not going to use it. Now tell them it'll be just a minute or so before you're ready, so they can relax for a sec. Then start with Tip #2 above and begin conversing with your subject. Get them talking about anything other than what you're doing. Try and find out something they're passionate

about like their favorite team, the worst movie they've seen, or the best restaurant they've tried lately.

When they're talking about something they love or feel passionate about, you're going to finally see real emotions and real smiles. While they're talking, you're looking for that moment. It's the moment between their stiff poses, where they're acting like themselves. This is when you get a "real" shot. They're not thinking about you or the camera. They're talking about their kids, or fishing, or shopping. But you still have your eye to the viewfinder, or your hand on the cable release.

You say, "What does your daughter want to be when she grows up?" And when they start to tell you, your camera clicks. You take the shot while they're telling their story. Timing is important here. Wait for that beaming smile. Wait for them to laugh. It's coming. And it's up to you to snag that "shot between the shots." It's where the most natural-looking portraits live, and you've got to get them to the point where they're comfortable enough to forget about the camera. The pressing the button part is easy.

BECOMING A BETTER PHOTOGRAPHER ONE TIP AT A TIME

Tips like the ones we've just talked about are what really make a difference to you growing as a photographer. The online classes at KelbyOne.com are full of tricks like these that can only come from countless years of experience with choosing the lighting or working with subjects. This is what takes your images to the next level.

If you're frustrated with the results you're getting from your portraits, it's probably because you know you can do better. You just need coaching. With a team of the world's best photographers and most passionate teachers, you can do it. KelbyOne has the tools and techniques to get you there and the best part is you can try it for free. Sign up for a 10-day free trial and you'll fall in love with this style of learning. 📷



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A picture is just a picture. Until it's not. Because a picture can reach a point where it's worth more than any number of words. It doesn't matter how you try to describe it. You can talk all you want. At the end of the day, some pictures are just meant to leave you speechless. Take those pictures. Fuel your creativity.

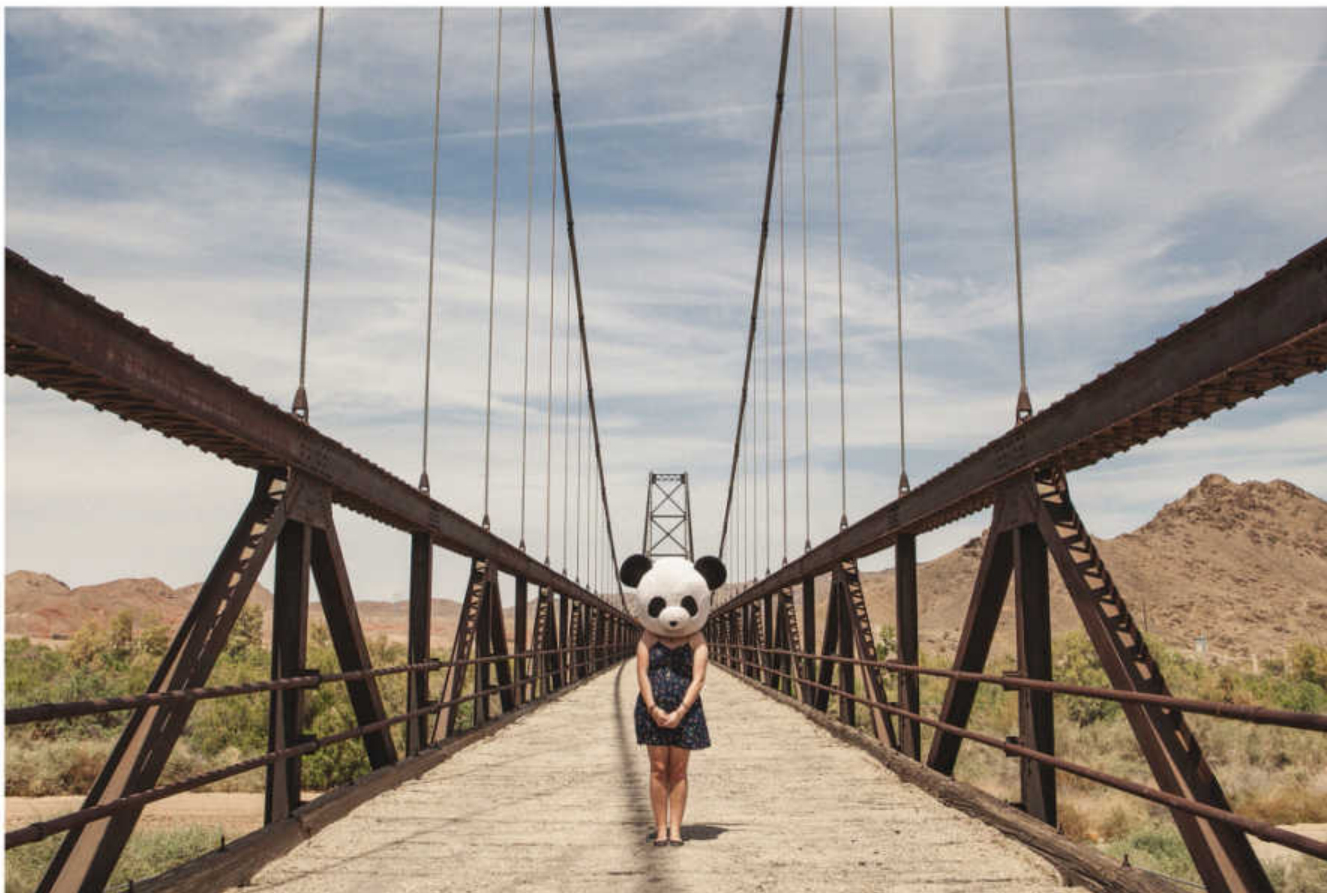
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CONVERSATION, INSPIRATION, CONTESTS, AND YOUR QUESTIONS ANSWERED



MY PROJECT

HEAD GAMES

**A mask makes for
eccentric portraits**

AFTER GRADUATING from UC Berkeley with a degree in rhetoric and a photography class under his belt, Cody Bratt had a brief stint working at a camera store before heading to Google, where

he has been employed for the past nine years. While his time in the camera business was short, it gave him a window into the photography world—and a desire to keep shooting. He experimented with night photography and explored the scene on long road

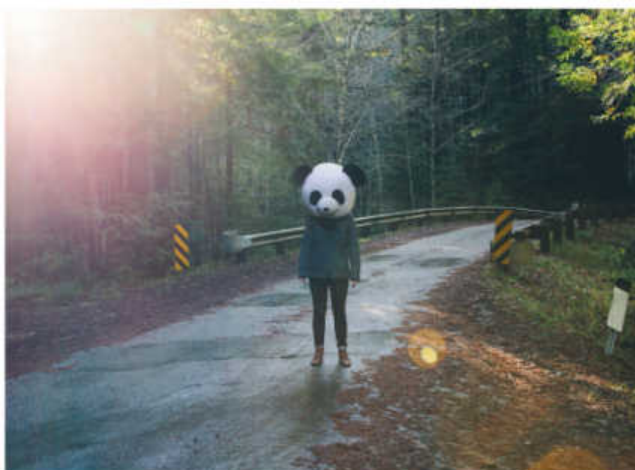
trips, but by 2011 Bratt yearned to go beyond simple, straightforward landscapes. Through a panda suit and some spontaneity, his series *Animalia Obscura* was born.

Bratt chose to use only the head of the panda suit and started packing it on trips in case the opportunity for a photograph presented itself. Each image varies in location, depth, and mood, but all are woven together with the



Cody Bratt

Bratt is a man of many interests, with a degree in rhetoric, a career at Google, and a quirky photo series.



CODY BRATT (8)

SELECTIONS FROM ANIMALIA OBSCURA
Bratt shoots a range of both film and digital, experimenting with color and black-and-white. Check out his other projects at codybratt.com

same curious panda mask. “I liked the weird contrast of the panda head against the landscapes I was shooting,” he explains, “I thought about identity against the landscape, and the overlap between man and nature.”
Using friends as his subjects, Bratt picks locations ahead of time. The photos, from the

location to the pose of the subject, have become more guided as the series has evolved. He says, “I direct my subjects to slow down and to not do anything too goofy,” in order to avoid making the panda head appear comical.
Using only natural light with an occasional reflector, Bratt dabbled in film before deciding that digital

worked best for this project. “I like making large prints of these images,” he explains; digital was the practical choice.
Bratt considers the project to be ongoing, and dreams of one day joining the series together to make a book. “I always bring the head along on trips,” he says, “just in case.”
—Sara Cravatts



BY THE SEA

An intricate composition wins the prize

35-YEAR-OLD Sebastian Gora has been shooting for nearly nine years and now works professionally as a freelance photographer (sebastiangora.com). Although he was born in Poland and currently lives in Birmingham, UK, he captured this prize-winning photograph in another country altogether during his travels.

"This image was taken in Algarve, Portugal," says Gora. "It was a place I found a long time ago in a travel guide, and I decided to go discover it for myself."

His curiosity paid off, and the location he had researched ended up making for a stunning composition. Attracted to the beautiful view of the sandstone rock formations against the sea when he arrived, Gora instantly set up to

PORTUGUESE COAST
Sebastian Gora captured the rough-hewn beach at Algarve with a Nikon D7100 and Sigma 17-50mm f/2.8 EX DC OS HSM lens at 17mm (25mm full-frame equivalent). His exposure: 1/500 sec at f/4, ISO 100.

shoot. "It was an amazing, strong view. I felt so small there, I was enchanted by the surroundings," he remembers.

When Gora first visited the site, the day was overcast and the scene did not shine the way he knew it could in better light, so he returned the following day to try again. Back at the water's edge under sunnier skies, he "gave the scene a spontaneous look-around." But "already knew what

I wanted to have in my picture," he says.

Once he had the perfect sunlight illuminating his scene, Gora took some test shots with his Nikon D7100 and Sigma 17-50mm f/2.8 EX DC OS HSM lens before finding the angle that framed his image to his satisfaction. "I shot with classic A [aperture-priority] mode, a fast shutter speed, and a low ISO," to work with the natural bright light.

—Sara Cravatts



NEXT PHOTO CHALLENGE In "Portraits in Monochrome" on page 52, we show three very different approaches to using black-and-white for photographing people. Share your best monochrome portrait by March 31 and you could earn \$100 and your story here. Read the rules at PopPhoto.com/contests.



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ON A MISSION

Our traveler sought new
 angles on a classic subject



MICHAEL BERGER (CHURCH); LINDA BAKER (HEADSHOT)

MISSION POSSIBLE Founded in 1692 by a Jesuit missionary, Tucson's San Xavier del Bac Mission is possibly the most photographed building in the American Southwest and definitely worth a visit, says Michael Berger.

"**THE LIGHT** was everything," says retired electrical engineer Michael Berger of the Tucson area, where he traveled with the Mentor Series last November. "It's the kind of lighting that's hard to find in other places, especially in the wet Northwest where I'm from," says the resident of Portland, Oregon. "In Arizona, you get dry air and a low sun. Both make for a great quality of light in mornings and late afternoons."

To bag this view of Tucson's famous San Xavier del Bac Mission, Berger and his fellow travelers arose long before dawn. "On clear days, getting out of bed before sunrise so you're at the location and ready to shoot when the sun crests is helpful for better travel shots. The lighting can be so beautiful then," he says. As he stood below a series of arches that framed the mission's dome, he was struck by the golden glow that washed over everything.

If you Google the San Xavier del Bac Mission, most of the resulting images will have been taken from the structure's façade. (It's considered one of the country's finest examples of Spanish colonial architecture.) Berger wanted to bring his own slant to the building, however, and after shooting the familiar views, he wandered around in back and was gratefully rewarded for it. "Hidden in the back was a goldmine of photo ops," he remembers. "Courtyards and arches, and plenty of architectural detail surrounded by complex shadows. Um-shaped finials, for example, were sidelit by slivers of strafing sunlight," the photographer says.

Berger's most important piece of advice? Where the bus drops you off isn't

always the only place for pictures. Look around. And arrive with a plan. Come armed with multiple side excursions as backups across the course of a day. "One thing that attracted me to this trek was its many different Southwestern venues," he says. If one didn't work out, the next one or two might.

One last tip: Don't forget the protein bars. When you're out of bed and on the road before dawn, by midday you begin to flag. Keep energy levels high by holding hunger and fatigue at bay. —**Peter Kolonia**



Michael Berger

After four decades in the hydroelectric industry, this retiree has dedicated himself to photography.

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TRUTH BE TOLD

I strongly applaud Rodney Lough Jr.'s article, "The Implicit Lie" (Point of View, January 2016). Where do we as photographers draw the line between an honest landscape (or any) photo depicting what we have seen, compared to one that has been strongly altered or manipulated? If it's been altered, then offer it as Photo Art, a category to include strongly altered, edited photography, but don't pass it into shows and exhibits as an original with only minor aesthetic tweaks! If we continue to blur the line, the integrity of photography is rapidly being lost!

Paul D. Sorensen
Forest City, IA

WOW! I'm not sure what bothers me most about Lough's piece: its arrogance, its ignorance, or its naïveté. Every photograph is a manipulation; no photograph can show a subject as it was "at the time the shutter was snapped." We change the world when we choose where to stand, what to include, and what to crop out, what depth of field we

use, how much action to capture or choose to blur with our choice of shutter speed, and how to display what we have made: big or small, black-and-white or color, screenshot or paper print. After all, the world does not actually exist as two-dimensional 8x10-inch slices of b&w glossy paper.

Steve Greenberg
Silver Spring, MD

BY USING a wide-angle rather than a normal lens, you have clearly altered the presentation. Same for a long lens. By shooting a person from a low vantage point, you make them look more powerful, larger than life, and a straight-from-the-camera JPG is not really presenting truth. It is craftfully presenting a story imagined in the photographer's mind. This is the essence of most photography. Still, some artists create art after the shoot; sometimes the imaginative process is at maximum during postproduction. The entire process from planning to print is a joy. But calling people liars is mind boggling.

Kevin Hanley
Bradenton, FL

THANK YOU so much for the Rodney Lough Jr. article. I thought it was great, and almost set the magazine down and applauded!

Louis Muratore
Carson City, NV

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GO FOR GOLD

Three winners that shine bright



3rd Place \$100 Prize

CARYL SEDUSHAK, 64, RETIREE, WAUKESHA, WI

As a retired hand-weaver, Caryl Sedushak has an eye for the intricacies of color. “I loved to combine color with structure, paying particular attention to detail,” she says of her weaving, “and I discovered that photography enabled me to use those strengths in a different way.” She took this close-up insect shot at the Retzer Nature Center in Waukesha, experimenting with her new macro lens. **TECH INFO:** Canon EOS 6D with 180mm f/3.5 Di Tamron macro; exposure, 1/8 sec at f/11, ISO 100. Basic adjustments made in Adobe Photoshop Lightroom 5.



2nd Place \$200 Prize

DILLON SAW, 19, STUDENT, DALY CITY, CA

Dillon Saw made up his mind to create a picture of the iconic Golden Gate Bridge that strayed from cliché. To do this, he approached the bridge from an angle that framed it with cypress trees during sunset. “Luckily there were no tourists in my shot,” he recalls, “and I stacked the images later to produce a long-exposure effect.” Saw made basic adjustments first, and then stacked four similar images in order to produce his desired final product.

TECH INFO: Nikon D7200 with 17–70mm f/2.8–4 Sigma DC Macro OS HSM lens; exposure, 1/10 sec at f/8, ISO 100. Basic adjustments in Photoshop CC and Lightroom 6.



1st Place \$300 Prize

SAM MOHD, 27, PHOTOGRAPHER, DES MOINES, IA

To capture an illuminated bulb, Sam Mohd hung it plugged-in and upside-down (flipping the image and removing the socket in post) using three Profoto B1 lights to define its contours, with one behind the subject and one on each side. "An Elinchrom Rotalux Octa 69-inch softbox is placed directly behind the subject," he says. "It creates a soft light which acts as the main source of rim light. The trick is a piece of black paper between the object and the softbox to get the rim light." **TECH INFO: Phase One DF+ with a Phase One IQ140 back and 80mm f/2.8 Schneider Kreuznach lens; exposure, 1/1000 sec at f/14, ISO 50. Edited in Capture One 8 and Photoshop CC.**



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After stops at Montouijic Hill and the picturesque coastal town of Sitges, we will continue on to Madrid for a full itinerary of photo-ops, including a portrait session with live bull-fighters at Plaza de Toros de Las Ventas, an afternoon at Retiro Park, and an evening shoot at the Temple of Debod, an ancient Egyptian temple that was dismantled and rebuilt in Madrid's city-center.

Our next stops will include Aranjuez Palace, with its ornate architecture and stately gardens; the city of Toledo, with its abundance of churches, palaces, fortresses, mosques and synagogues; and Consuegra, known for the windmills that inspired Miguel de Cervantes to create the famous battle scene in *Don Quixote*.

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Our workshop will end in Portugal with stops in Évora, a beautifully preserved medieval town; the capital city of Lisbon; the fishing port of Cascais; and the iconic quarter façade of the Tower of Belém on the bank of the Tagus River.

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without help from software



I OWE THIS floral fantasia to a technique introduced to me by the Encino, California-based studio pro Jerry Sanders (sandersphoto.com). While its impressionistic shapes and intense color are eye-catching, what I really like about his technique is that it's made completely in the camera—no image editing required.

Jerry discovered that if you carefully place a pane of textured plastic between your camera and subject, you can produce painterly pictures that are both beautiful and relatively easy to do. Want to try it? I suggest starting with



flowers because they're colorful, readily available, and instantly recognizable even when blurred. Pick defect-free specimens with large, crisply defined petals and warm, saturated colors. Here are some more tips:

- **Add interest** and implied movement by placing stems on a diagonal. Position your subject so that there's enough space between it and the background to separate them visually and permit selective focus. At the same time, position the textured pane close enough to the flowers to render them clearly.

- **Start with a simple background** such as paper, cloth, or a seamless sweep. Cooler tones can make a warmer subject pop. As you gain experience, you can introduce more complex, compositionally dynamic backgrounds.

- **Light your setup** with natural sunlight, but diffuse it a bit or keep it indirect to reduce harsh shadows.

- **Center lighting** of the background can vignette the edges back there and draw a viewer's eye to your subject.

- **A wide-angle lens** makes it easier to include everything you want in your composition. Experiment with different settings and be creative!

—Bill Debley

Step 1

Find your subject. Debley recommends starting with artificial flowers, which won't wilt or wither, giving you a unlimited time to perfect your technique. If you prefer something less rigid, there are endless possibilities in most floral shops, or search your neighborhood for pops of natural color.



Step 2

Style the bouquet. Go for maximum impact by separating blossoms—but not too much—and working for an arrangement that balances variety and coherence. Try to find or create a point of interest to anchor the composition. It might be a flower larger or sharper than its neighbors. Look for great light: side light, rim light, and dappled light can all be flattering, depending on your subject and/or scene.

Step 3

Prepare your textured pane.

Clean the acrylic sheet thoroughly. Smudges, dust, and fingerprints will show up in your image.

Position it in front of your subject and, if possible, suspend it from a boom or lightstand. Usually it should be parallel to your subject and placed close to your point of interest. You can, by the way, also use textured glass if an acrylic pane isn't available. We've also seen translucent shower curtains used to good effect.

Final Step

Experiment. Changing the plastic-to-subject and plastic-to-lens distances can alter the appearance of your image. To get a feel for the technique and process—and to develop a style all your own—experiment by changing focal lengths, apertures, and ISOs, as well as those relative distances.

SET IT UP

You can use this technique anywhere, even under natural light. Shot with a compact, the photo at left had an exposure of 1/250 sec at f/2.5, ISO 1000.

THE GEAR

1 CANON POWERSHOT S110

Debley says you can use almost any camera and lens that lets you focus close. His (discontinued) PowerShot focused to 1 inch! Current S110 equivalent, the S120, sells for \$349, street.

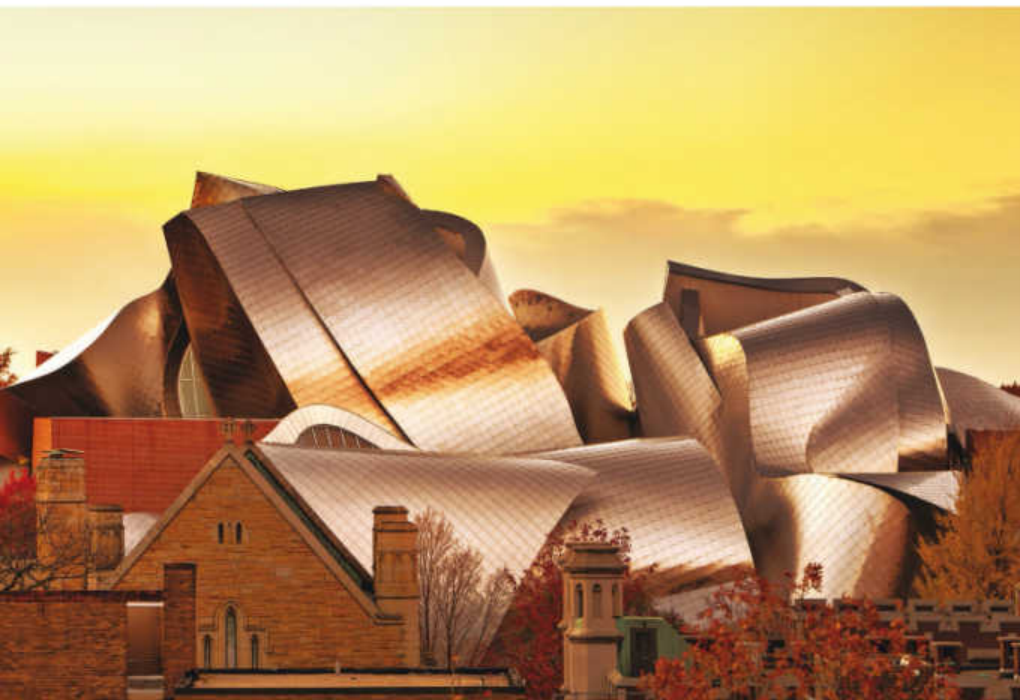
2 PIE MXP BOOM STAND AND ARM

Use a boom and clamp to suspend your textured pane in front of your subject. Dollar for dollar, this is a sturdy one. \$336, street

3 TEXTURED ACRYLIC SHEET

Major home goods outlets sell these. Prices vary by size and thickness.





ROOF LINES

An elevated perch can lift your cityscapes

SCOTT PEASE is a pro shooter based in the Cleveland area who specializes in interior and exterior architectural photography. One thing he's discovered about taking better exteriors of high-rise structures? Shooting them from an elevated vantage point can produce relatively distortion-free and more visually satisfying views of the buildings he photographs.

"Working from a nearby rooftop gave me a different perspective for this photo of a Frank Gehry building in downtown Cleveland. It's a vantage point that people can't experience at street level, and that alone makes the image special," says Pease. Among other strengths, the vantage point captures most of the edifice, while also offering a contrast of the new and old architectural elements of this particular cityscape.

Shooting architecture from nearby rooftops, says Pease, is better than

shooting through windows in those buildings. "For one thing, from the rooftop you typically have the extra mobility that allows you to more freely compose the scene," he explains.

If you want to produce a portfolio of urban architecture, Pease recommends scouting out buildings with elevated locations that promise unobstructed sightlines onto other interesting architecture. Then work your contact list to gain permission to shoot from them. Getting rooftop access isn't easy, but shooting

NEW WAVE
Pease captured architect Frank Gehry's undulating Peter B. Lewis building at Case Western Reserve University in Cleveland with a Canon EOS 5D Mark II and EF 70-200mm f/2.8L IS USM lens. Exposure 1.3 sec at f/16, ISO 100.



BY THE BOOK

THE PHOTOGRAPHER'S IPAD

By Frank Gallaugher; Ilex, 2016 With the iPad's lack of input options such as a USB port or built-in card slot, an out-of-the box Apple tablet, in all its iterations, isn't exactly a user-friendly photo tool. A bummer, because it's such a physically convenient and visually spellbinding way to show off photos. Author Frank Gallaugher guides you around these impediments with loads of tips for inputting, organizing, displaying, and sharing still and video captures with the iPad. What we really liked: the step-by-step explanation of how to wirelessly transfer live-view feeds from compatible cameras directly to an iPad screen through a Wi-Fi connection. It's surprisingly easy.

ESSENTIALS

DID YOU KNOW?

As noted in this month's monochrome portrait story (page 52), the process of converting a digital file from color to black-and-white is multifaceted. A useful conversion tool is Adobe Photoshop's Black & White adjustment layer. Options include:

ADJUSTMENT LAYER

PRESETS. If you don't like the default b&w, you can fine-tune the results using the adjustment layer's Preset dropdown menu. Selecting a color filter, infrared, or neutral-density preset (among others) can subtly or radically alter your photo's look.

OPACITY. After going b&w, experiment with percentages of desaturation by adjusting your conversion layer's Opacity. You can get wildly creative and widely different effects. Which is best? Save several!

from the upper floors of well-placed parking garages can be. Check out what buildings can be photographed from these perches, and start your own gallery of architectural shots by working from public garages in a variety of lighting conditions and seasons.

—Peter Kolonia

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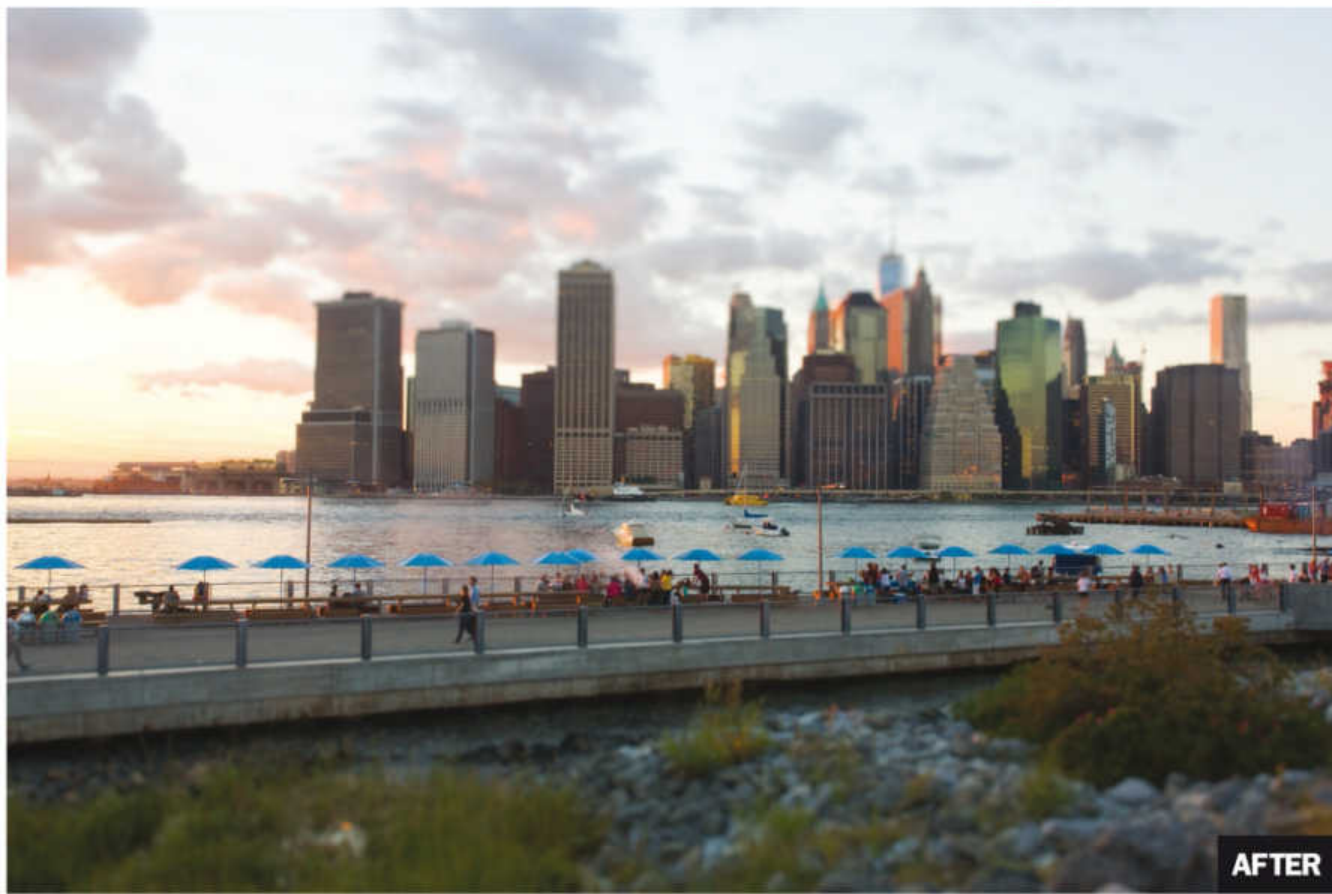
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NEW EXPOSURE

The popular plug-in now does it all—on its own

ALIEN SKIN'S Exposure is well known for its film emulation effects. Although still available as a plug-in, an update to the standalone version of the software offers expanded organizational and sorting tools for easier access to images. All the color and b&w film presets are still available, but its new asset management capabilities and the program's existing RAW processing and other image correction tools have upped the value of the software—without an increase to its \$149 price.

We'll get you started using the program's organizational tools, basic RAW processing and, as a bonus, show you how



to apply Alien Skin's excellent bokeh effects for a cool tilt/shift look. We used a cityscape image from our associate online editor Jeanette D. Moses for this tutorial, but any image will work as you try some of Exposure X's features. —*Theano Nikitas*

TILO/SHIFT CITY
Alien Skin's Exposure X converts RAW files, simulates film and camera/lens effects (as in the faux tilt/shift, top), and now organizes too.

QUICK TIP

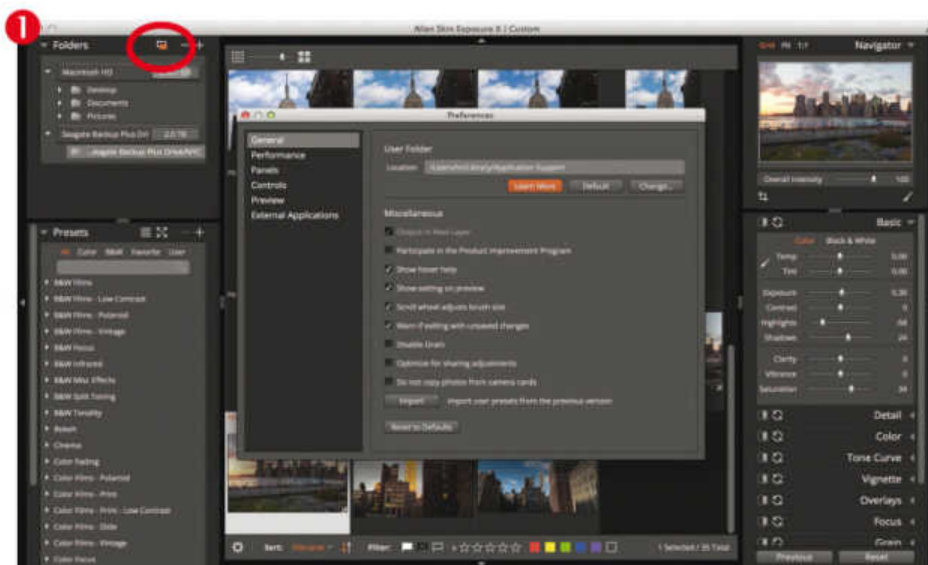
FIND ALL DRIVES

Currently, Exposure X recognizes only external card readers (see the program's Preferences) and internal hard drives. To access external hard drives and flash drives, connect the drive to your computer. In Exposure X, click the + sign at the top of the screen and choose the drive or folder to bookmark it. Exposure X will recognize the drive/folder each time you plug it into the computer. To remove the bookmark, right-click the drive/folder and choose Remove this Bookmark. This does not eject the drive from your computer; do that manually.

Step 1

Open the standalone version of Exposure X. Go to Exposure > Preferences and adjust these as necessary.

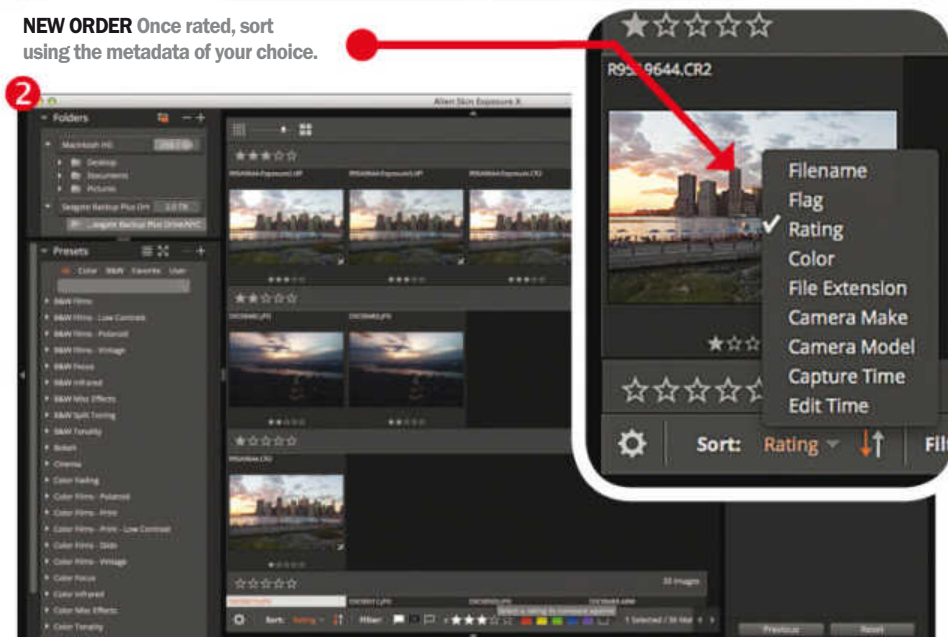
You can customize the interface, add an external editor, adjust the program's performance, and more. Then choose a folder or file in the Folders panel to see your images in the main window. Click the folder icon (circled), to reveal images in subfolders (it turns blue when subfolders are hidden).



Step 2

Select an image (or images) to rate with stars, colors, or flags. There are three methods to rate an image: right click to choose the style and rating; click on a flag, star, or color tab directly on the image; or click the flag, star, or color tabs at the bottom of the window. **Use the panel at the bottom to sort your images by rating or other criteria, and use the Filter at right to choose which to include in your sort.** In this case, I chose to show all images that were rated up to and including 3 stars.

NEW ORDER Once rated, sort using the metadata of your choice.



Step 3

Double-click on the image you want to edit; it will open in full screen view (double-click again to return to grid view). I chose a RAW file and used the Basic adjustment panel sliders to tweak the image. I dialed down the highlights to -58; brought up shadow details to +24, and increased saturation to +34. You can adjust the overall intensity of changes with the Intensity slider bar in the upper right under the Navigator window.

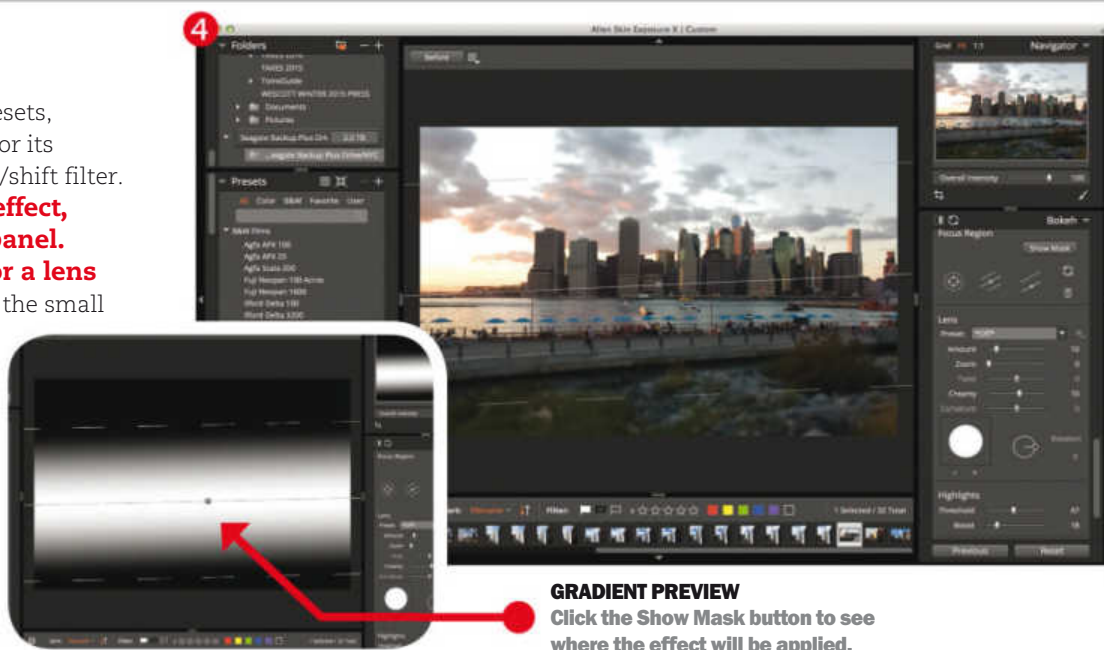


Step 4

Besides its filmic presets, Exposure is known for its accurate-looking tilt/shift filter.

To add this lens effect, open the Bokeh panel. Choose a shape or a lens preset. I clicked on the small trashcan to delete the default radial overlay and chose the planar shape instead. Use the slider to adjust the amount of the effect you need (I moved it to 10).

I also increased the highlighted areas affected by moving the threshold and boost sliders under Highlights. Then I grabbed a handle at the edge of one of the overlay lines to rotate the planar shape to better match the waterline angle in the image.



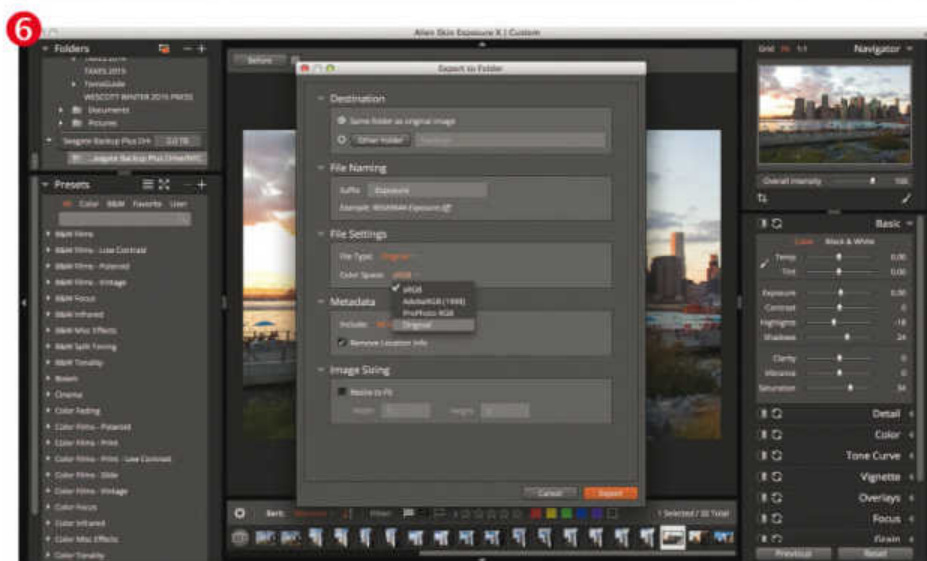
Step 5

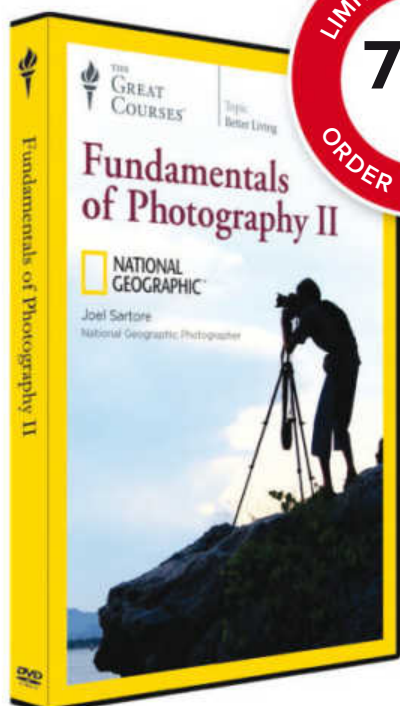
Return to the Basic adjustment panel to apply final exposure and color adjustments. The highlights in this image were a little blown out, so I used the highlights slider to dial them down.



Final Step

To export the final image, go to File > Export. In the export to folder dialogue, choose where you want to export the image. The default suffix is “-Exposure” so you can distinguish it from the original (I added the number three to indicate this was the third iteration of the image). Click dropdown arrows for options; I exported a TIFF. When you’ve adjusted your settings, hit Export.





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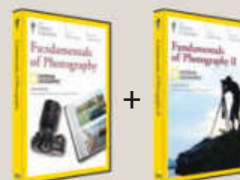
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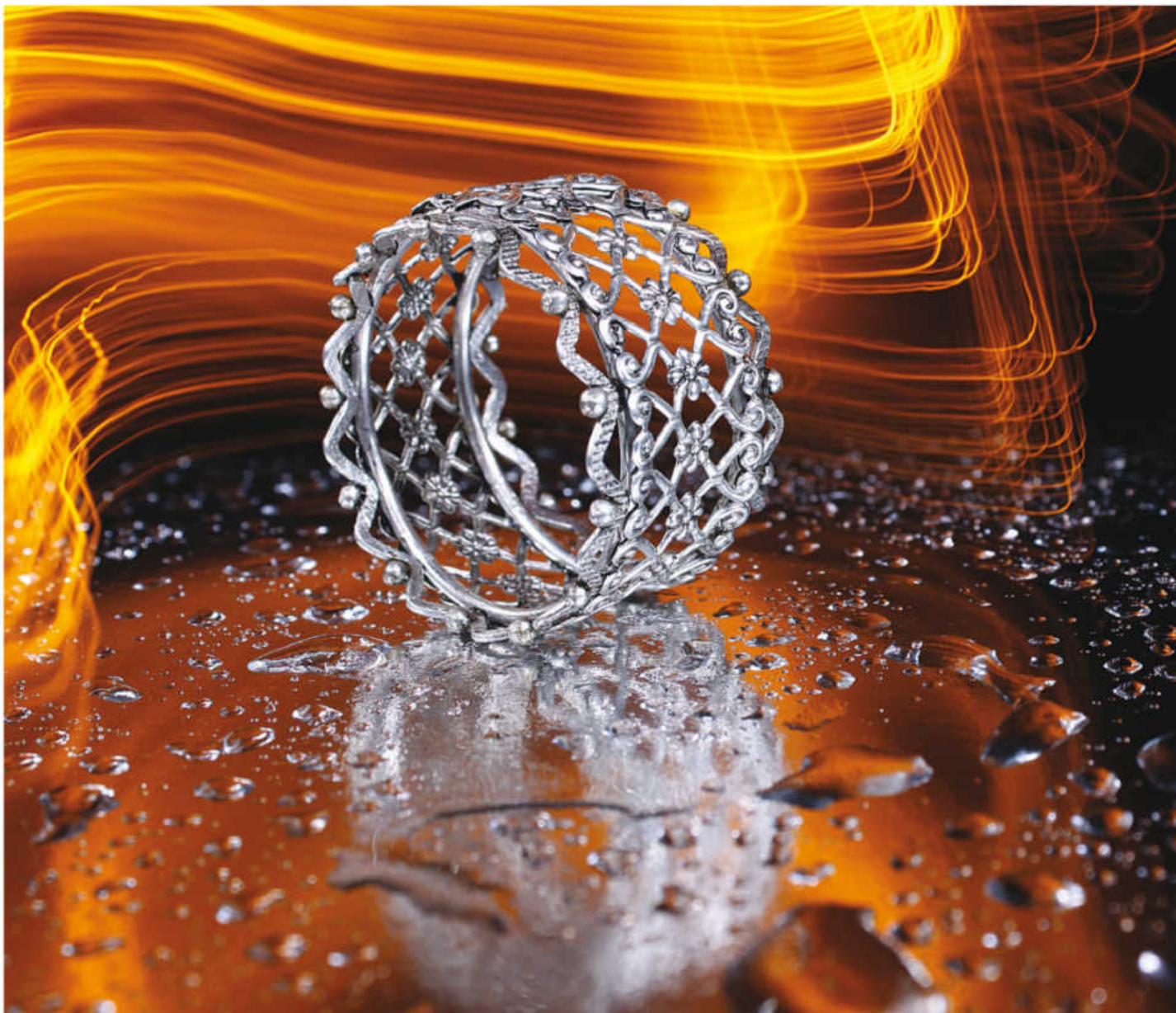


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FINGER PAINTING

Inexpensive lights for cool product shots

JUKKA LAINE, a Finnish photographer and lighting designer based in Helsinki, shot this portfolio piece to lure work from silversmiths and jewelry makers. Knowing that, you might assume his main light was one of the pro-grade Broncolor or Profoto strobes that often make an

appearance here. But you'd be wrong.

"This could have been done with expensive studio lights, but what's the point if a viewer doesn't recognize the difference?" asks Laine, a paint-with-light specialist. "The fact is, you don't need expensive equipment if you have a good idea and the patience to pursue it," states the photographer, who hosts lighting workshops at the University of

LIGHT PAINTER
Laine shot with a Canon EOS Rebel T3 and 18-55mm Canon EF-S f/3.5-5.6 IS STM kit zoom. He exposed the scene for 29 sec at f/10, ISO 100.

Helsinki, among other venues.

Instead, he lit this aluminum napkin ring with 99¢ LED finger lights. Tiny toy-like devices that clip onto a fingertip and are available in several colors, these lights have practical applications, especially for close-up photography. Among other benefits, they will illuminate smaller objects with an unusual degree of precision. Laine bought

TOOL TIPS

1 FIBER OPTIC HOLIDAY DECORATION

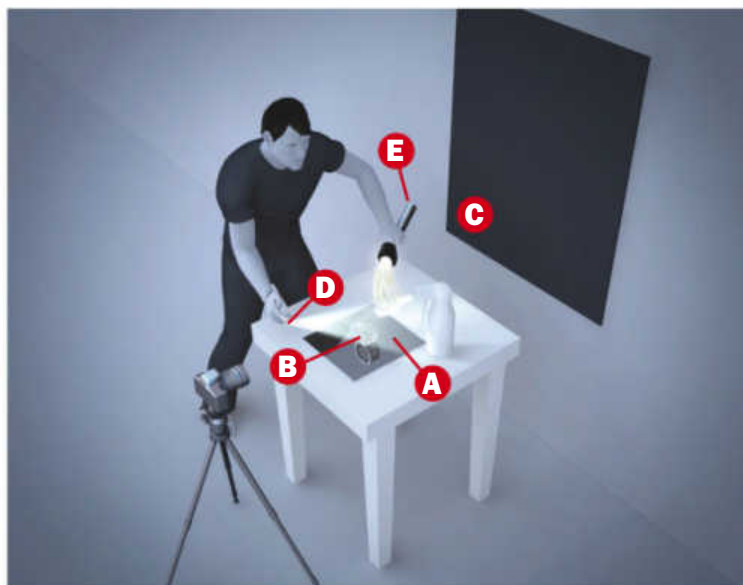
These can be found online in a variety of different styles, sizes, and colors. Smaller ornaments can be grouped together to great effect. \$10 to \$35, depending on the size

2 FLASHLIGHT

Choose a flashlight that corresponds to the size of your fiber optic light source. For a large fiber optic ornament, use a larger flashlight. From \$5 street

3 LED FINGER LIGHT

Surprisingly inexpensive, finger LEDs clip in place and are battery powered for up to 12 hours of use. They're quite bright and are well suited for paint-with-light projects. \$8 for 40 lights, street



To create his paint-with-light promo piece, Jukka Laine started with a tabletop base of cardboard that had been lined with a reflective material (A). He then sprayed that reflective surface with water to create the beading. Next, he put his subject (B) into position and hid a tiny dot of modeling clay underneath it to prevent the ring from rolling away. He then suspended a length of black paper behind his subject (C), turned off the room lights, and opened his camera's shutter. Using the LED finger light (D), Laine exposed the ring and the water droplets, being careful not to produce reflections in the mirrorlike base. Finally, to produce the paint-with-light streaking, he aimed his "fiber optic flashlight" (E) from behind the ring toward the camera; he then turned it on and gave it a quick wave. The full exposure time was nearly half a minute. To see a video of the whole process, go to <https://youtu.be/OHFTFY82aec>.

the shutter held open for relatively long periods of time. While the shutter is open, you "paint" the picture by waving a light source at and around the subject. For further details on how Laine made this, see the sidebar above.

To attempt a similar paint-with-light product shot, the photographer suggests that you:

- **MINIMIZE SHADOWS.** Light the object from all directions to reduce shadows.

- **ADD DIFFUSION.** Consider projecting your main LED light source through diffusion material for a softer look. (The lighting on this ring is harsher than many subjects need.) Tissue paper would work well.

- **"PAINT" CREATIVELY.** If possible, try passing the fiber-optic strands through the object you're

photographing for a cool effect. It's much easier to do as a paint-with-light project than if you attempted to recreate the look in software.

- **DIM THE LIGHTS.** Use the dimmest flashlight available to you. Dimmer lights let you move your light sources relatively slowly. This gives you more creative control and makes it easier to replicate a look for subsequent test exposures.

- **USE SMALL APERTURES.** Shooting at f/8 or f/11 will extend the light-painting time at your disposal and can help assure a sharp subject through greater depth of field.

- **BE PATIENT.** To get this keeper, Laine rejected about 40 test shots. Sometimes his ratio is 100:1. The reward for such persistence? The image here is the JPEG straight from the camera. Not a minute of editing was required for the shot.

—Peter Kolonia

his in a supermarket.

The background streaking here was also produced with a light source he found in a supermarket: a fiber optic holiday ornament (see photo at right), which he customized by removing its strands and taping an everyday flashlight to their base. He then wrapped the base in black felt to prevent unwanted light spill.

Like all paint-with-light projects, this one required working in the dark with the camera on a tripod and



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Your **AMAZING**

You went, you saw, you photographed. A lot. How do you show your viewers how awesome your trip was? Just back from a voyage to Myanmar, professional travel photographer Greg Von Doersten tells his secrets for shooting and sharing an incredible expedition.

Photos by Greg Von Doersten; text by Russell Hart

SOARING SITE

Morning mist lends depth near the Sulamani Pahto temple; punctuation is provided by hot air balloons. Von Doersten shot with a 70–200mm f/2.8 Canon EF zoom on his Canon EOS 5D Mark III. Exposure: 1/125 sec at f/7.1, ISO 400.

ADVENTURE



hen photographers get serious about documenting their travels, they usually forget something important. No, it's not their passport or a tripod—it's themselves. And in taking the big step up from snapshots, their pictures end up looking like countless other travel photographs.

The remedy for that is to make yourself and your traveling companions, whether family or friends, an active part

of your photographic travelogue. This doesn't mean reverting to the snapshots that any other tourist might take. It means including your companions in images as a way to help viewers project themselves into your adventure.

No photographer understands this better than Greg Von Doersten. The Jackson, Wyoming-based photographer has worked for publications such as *Outside*, *Backpacker*, *Time*, and the *Washington Post*, also working as an expedition





photographer on mountaineering and whitewater river trips. (Before he started his photographic career he was a trekking and river guide in India and Nepal.) Von Doersten recently returned from a trip to Myanmar, and his take, examples of which you see here, proves the effectiveness of making you and your companions a visual element in your photographic narrative.

"Putting figures into a scene, especially the people I'm traveling with, accomplishes a number of things for me," says the photographer. "One is that it provides a reference for the scale of the subject, which can be important to the vast landscape in which I'm often working. Another is that it makes it easier for viewers to imagine themselves in the image, giving them an 'I wish I were there' feeling." In addition to creating these kinds of images along with his usual striking shots—in the case of Myanmar,

of magnificent temples, soaring mountains, and colorful ceremonies—Von Doersten makes sure to work them into his carefully produced final edit. (More about that later.)

Von Doersten's adventures all start, though, with extensive research and planning. "Before I went to Myanmar, I read travel and history books about the country to get a sense of potential locations and local culture," he says. "I like

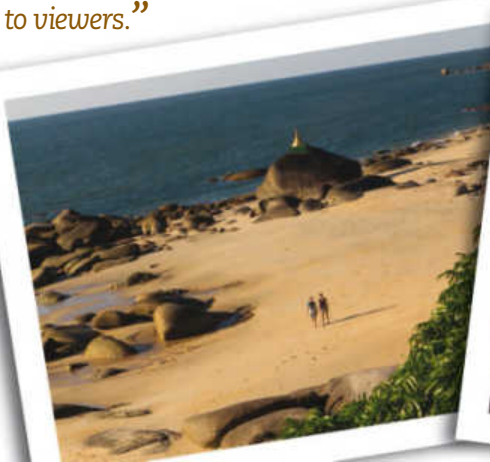
"Your story should be able to stand alone, without words, and make sense to viewers."

SCENE STEALERS

Von Doersten includes traveling companions to personalize his photographs.

Exposures: 1/500 sec at f/7.1, ISO 100 (above) and 1/60 sec at f/4, ISO 100 (below right), both taken with the EF 16-35mm f/2.8 zoom; 1/250 sec at f/9, ISO 100 (below left), with the EF 24-70mm zoom.

to get off the beaten tourist path, but need to make sure there aren't problems with access to the places I want to photograph." Based on his research, Von Doersten creates a shot list of subjects, but never feels limited by it. "After a point," he says, "you have to let your internal compass dictate your direction. It could take you to an amazing festival that was off the radar. But in a country like Myanmar, it's hard not to want to visit the more familiar sites like the mystical temples of Bagan. And then you have to rely on your photographic skills to do something different than





what's been done already."

Von Doersten takes a pause before he starts shooting. "When I arrive at each place, I spend the first morning making a kind of map of locations, the expected atmospheric conditions, and where the sun will rise and set," he says. "I can basically line up my shots in advance that way. In Myanmar you have to be willing to hike and climb in order to get unhindered views of many things, but you don't have to be a triathlete!"

Von Doersten chose to present his Myanmar work in what he calls a "narrative" rather than a "thematic" style. "In the case of the narrative essay, you want to lead with a stunning, broad establishing photo to draw your audience into the location," says the photographer, who sometimes uses drones to get the high-angle or aerial shots that serve this purpose so well. "Then you can go on to do

scene-setting, supporting, and detail photos. It's very important to cover your subject in as many ways as possible. Along with making myself shoot close, far, low, high, and with different lenses, I take cues from my subject. With people, I try to establish a relationship through their work, crafts, or other daily activities. If my subject is having fun with the shoot and enjoying the interaction, then I can work a number of options, from head-and-shoulders and environmental portraits to lifestyle images, which can tell a greater story." (See the sidebar on the next page for specifics about each type of shot to include.)

"When I was shooting a temple in Myanmar, for instance, I'd find a location that had an unobstructed view, then shoot from there with both long and short lenses," Von Doersten continues. "Then I'd move closer and closer until I was inside the temple shooting details.



LOCAL FLAVOR

Clockwise from above, center: A village lunch; Buddhist monks; a Palaung mother and daughter.

Exposures: 1/30 sec at f/2.8, ISO 1000 (24–70mm); 1/500 sec at f/7.1, ISO 100 (16–35mm); 1/1000 sec at f/2.8, ISO 200 (70–200mm).

After that I'd photograph the local culture surrounding the temple.

You've got to make sure to switch it up, shooting the landscape, the structures, and the indigenous people—and, if you want adventure-style coverage, pictures of your friends and you experiencing it all."

What do you need, in terms of equipment, to achieve that kind of variety in your photographs? "You can get away with two or three zooms for most travel purposes," says Von Doersten. "I usually pack



“It’s not enough to show powerful photos; you also have to present them in a meaningful order.”

a 16–35mm, a 24–70mm, and a 70–200mm, all with constant f/2.8 maximum apertures, plus a 1.4X teleconverter.” If you don’t need ultra-wide angles of view, you can opt for just two zooms, a 24–70mm and a 70–200mm. If you have room to spare (and perhaps a sherpa), Von Doersten suggests adding fixed-focal length lenses on either end of

WATER WORLD

Above, silk weavers do business by boat on Myanmar’s Inle Lake; below, Von Doersten’s travel mates go by local methods. Exposures: 1/1000 sec at f/5.6, ISO 1000 (16–35mm); 1/500 sec at f/7.1, ISO 100 (16–35mm).

SHOT LIST

To tell an effective story, Von Doersten says to be sure to capture these types of images.

- ✓ **The Lead Photo.** Similar to the first two sentences of a newspaper article, your first image in the story should draw in your audience. This is often the most challenging one to choose. It could be an emotional portrait or an action shot, but ultimately it must provoke the curiosity of the viewer.
- ✓ **The Scene-Setting Photo.** Your second image should set the stage and describe the scene of your story. An overarching photo taken with a wide-angle lens is often effective. This image tends to be descriptive.
- ✓ **Portraits.** Your photo narrative should include at least one portrait. Capturing the expression of one of the locals or someone in their element can provoke a connection and help humanize your story.
- ✓ **Details.** This kind of photo focuses in on one element such as a building, face, or object. The captions for these should be informative and educational. A narrative is much more engaging and powerful with detail shots.
- ✓ **Close-ups.** Similarly, close-up photos provide an opportunity to isolate specific objects that make sense in the context of the surrounding images. Keep them simple and tightly cropped.
- ✓ **The Signature Photo.** The signature photo summarizes the scene or situation and captures the key elements of your story in a telling moment.
- ✓ **The Clincher Photo.** Your final image should evoke the emotion you want the viewer to leave with: wanderlust, inspiration, or even elation. —G.V.D



FUN AND FAITH

Top to bottom:
The Fire Stick
Festival; a
Buddhist family's
shrine; a friend
on the train to
Mandalay.
Exposures:
1/125 sec at f/4,
ISO 3200
(16–35mm);
1/250 sec at f/4,
ISO 400
(16–35mm);
1/15 sec at f/22,
ISO 800
(16–35mm).



that range. He himself often takes a 14mm f/2.8 and either a 300mm f/2.8 or 400mm f/2.8 telephoto. All of that glass goes on Von Doersten's go-to Canon EOS 5D Mark III, which he also uses for video. He always takes along a back-up body, currently the Canon EOS-1Dx, which is especially well suited to fast action. Recently he has also been shooting with the Sony Alpha 7R II for its 4K video and exceptional low-light capture abilities.

What happens when Von Doersten is back home in Wyoming is no less important than the trip itself. "I immediately back up the content of all the portable drives I've used on the trip to my studio drives," he says. "With the Myanmar project, I

shot over 9,000 images in three weeks, along with over 100GB of video. After a quick overview of the work and an initial culling of the best shots, I dive into a deep edit, grading my top images and filling them in with supporting, scene-setting, and detail shots. It's important that the order of your photos tell a story in an interesting and logical way."

Indeed, Von Doersten always has the viewer in mind when he strives for this. "It has always come naturally to me to include the people I'm traveling with, friends and often athletes—to capture all the moments in between the big shots," he says. "These behind-the-scenes images can be some of the most heart-felt ones, because they show the elation and the hardships of the adventure. Including them creates a reference point for the viewer, and that's the trademark of my photography."

"You want to be able to see the elation and the emotion in your traveling companions' faces."

PORTRAITS IN MONOCHROME

Photography's best shooters often turn to black-and-white for its expressive power. We spoke with three pros to learn the intricacies of creating a strong b&w likeness. *By Peter Kolonia*

FACES OF NIGERIA

"I chose black-and-white for this series of portraits to accentuate the black skintones and render them identically from person to person to suggest a commonality," says Mfon. Shot with a Nikon D610 and 85mm f/1.8G Nikkor lens.

IMA MFON (2)



“FOR ME, a person’s true essence is best communicated in black-and-white,” says portraitist Ima Mfon. While it’s true that most see in color, color can sometimes be too descriptive, adds the Lagos-based photographer. It can fail to show the depth and mood that black-and-white’s contrast, rich tonality, and shadowing can communicate. Monochrome can bring the focus powerfully upon the individual, while the distraction of color can pull it away.

Sandro Baebler, a portrait, editorial, and advertising pro based in Zurich and New York, prefers black-and-white for many reasons, but mostly for its timelessness. After all, the portraits we recognize as being “great” since the birth of photography are predominantly monochrome. “Also,” he says, “black-and-white conveys more about the qualities of light” When the subject is well lit, “the interplay of light and shadow in black-and-white can create a more

HAIR APPARENT
Ima Mfon liked the way black-and-white brought out the texture in this subject’s tresses. “Adorning one’s hair is a huge theme among Nigerian women,” he says. Both portraits were shot with the same camera and lens, and exposed for 1/160 sec at f/16, ISO 320.

powerfully three-dimensional effect. Color, on the other hand, can lack dimension,” he adds.

It’s by no means a hard and fast rule, but black-and-white can also capture texture more convincingly. “Skin, whether youthful and smooth or aged and rough, as well as background details such as weathered buildings or textured rocks, usually respond well to black-and-white,” explains Mfon.

Melanie Dunea, an internationally known New York-based portraitist and editorial photographer, often prefers black-and-white for reportage and environmental portraits. Because of its association with newspapers, there’s something inherently newsy and topical about monochrome. “I also like it for the consistency it brings to environmental portraits made under lighting with a variety of color temperatures,” she explains.



SPACE AGE

For this shot of a Swiss artist, Baebler chose monochrome for its reductive powers. "There's something calming about [b&w]," he says. Shot with a Canon EOS 5D Mark II and 85mm f/1.2L II Canon EF lens; exposed for 1/160 sec at f/11, ISO 100.



Shooting Strategies

Baebler shoots in RAW and keeps the full-color files "because you never know," he says with a smile. Among other pluses, RAW files give him far more flexibility in fine-tuning skin tones during conversion.

When Baebler sets up his Canon EOS 5D Mark II for portraits, he often sets the LCD screen to preview his shots in black-and-white. This is especially useful for finessing his lighting because the monochrome preview can more readily reveal strengths and weaknesses of a particular lighting setup.

Since the rich tonality of a good black-and-white portrait is typically one of its strengths, Mfon has developed an eye for recognizing good highlights, shadows, and midtones, and making sure they're well-represented in many of his portraits. "Try for a balance of these three tonalities, otherwise your portraits may appear dull with too much grey or dark with too many blacks. Obviously, high-key and low-key renderings [as in his portraits here] can also work," he says.

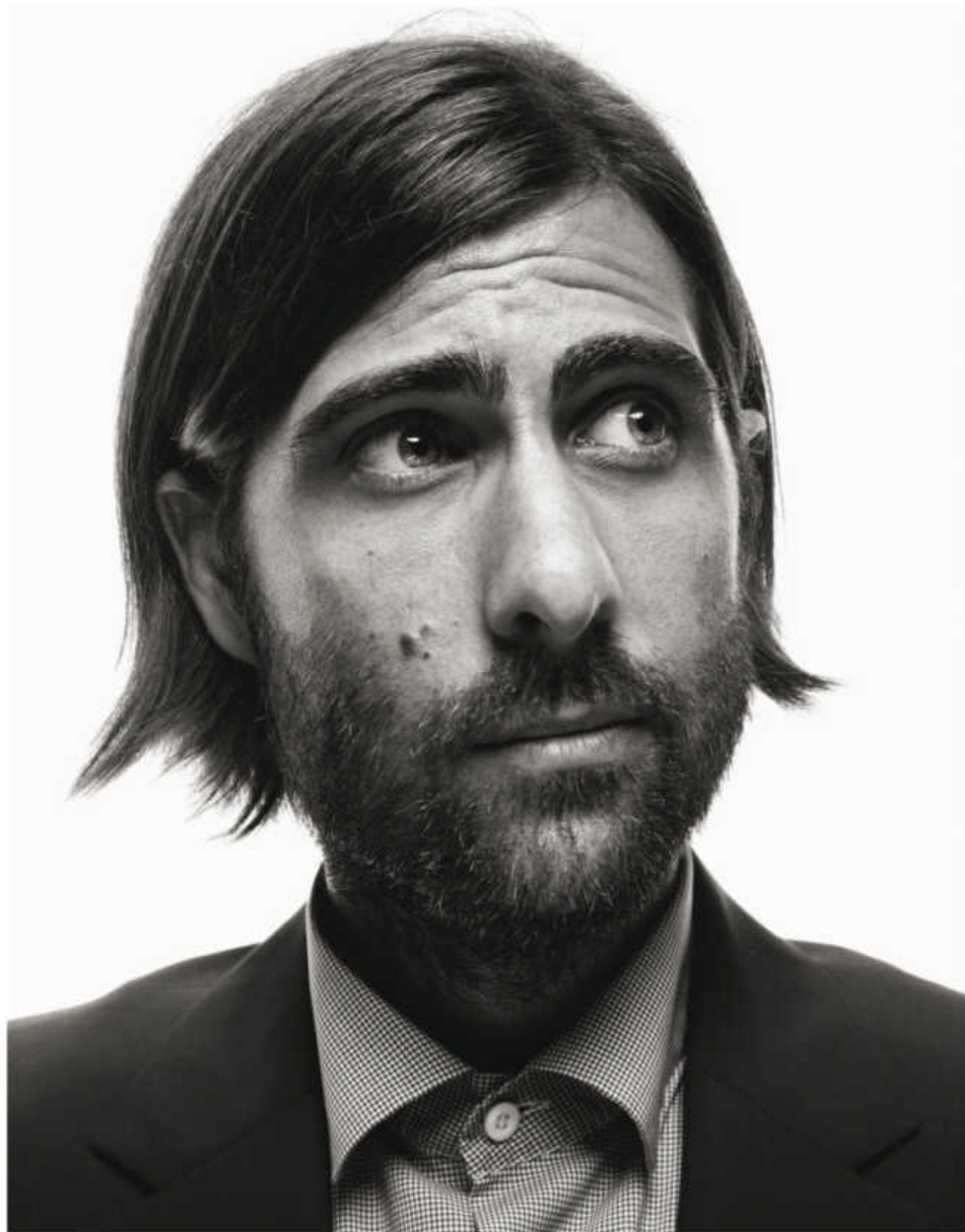
The process for achieving rich and luminous tonality, however,

FULL TONE

With his portrait of American actor Jason Schwartzman (top right) Baebler shot with a Canon EOS 5D Mark II and 24-105mm f/4L Canon EF IS USM zoom lens, exposing for 1/160 sec at f/13, ISO 100.

is different for every skin tone and every background. For artificially lit shots, he suggests adjusting the relative intensity of highlights and shadows (main versus fill lights).

Rich tonality can pop up in surprising places. Monochrome skies behind outdoor portrait subjects, for example. "You can get a lot of pictorial impact from a black-and-white sky," says Mfon. Experiment at different hours and, if you're shooting film, with different colored filters threaded onto your lens, he advises. To add life to a monochrome sky with digital, try an adjustable circular polarizer.

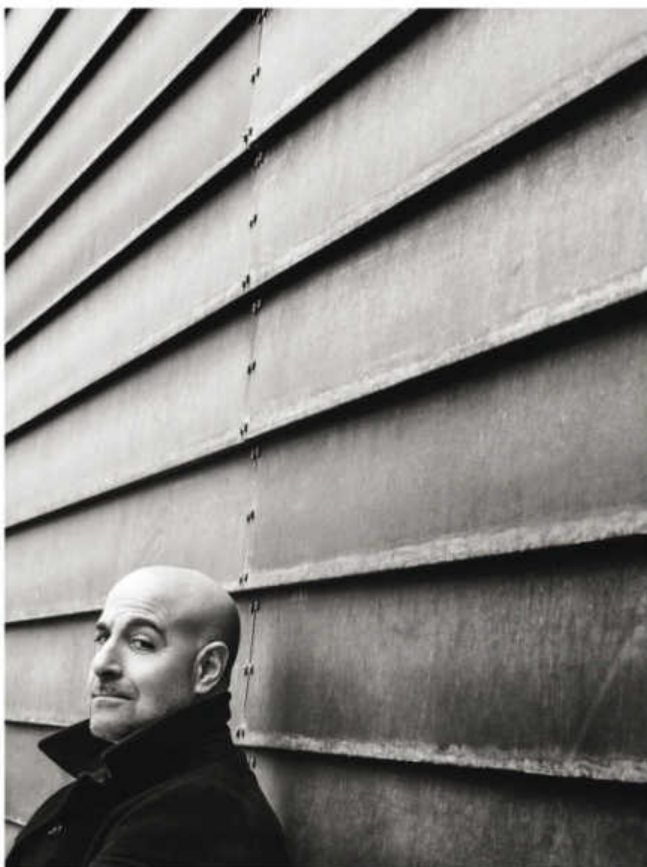


RAW Conversion

The details of converting a full-color RAW file to monochrome are critical when shooting black-and-white portraits. Particularly in subjects who have lighter skin tones, says Sandro Baebler, one of the most important steps is adjusting the relative strengths of the reds and yellows. "Adjusting these two channels in concert can make huge differences in the way your subjects' skin appears," he says. It often works best to dial in a skin tone that separates your subject from the background.

SHAPE WITH CONTRAST
For these two French actors, Baebler shows how black-and-white's lighting and contrast can add dimensionality. He shot with a Canon EOS 5D Mark II and 50mm f/1.2L Canon EF USM lens and exposed for 1/160 sec at f/11, ISO 100.





For Baebler, conversion begins in Adobe Camera Raw. “I open them in ACR first in color, and try to do as few edits to contrast, color, and exposure as possible because they can affect the conversion. Then, in Photoshop, I convert with a b&w adjustment layer. If a contrast or exposure move is required, I make it with adjustment layers on top of the conversion layer,” he explains.

Mfon prefers to use Photoshop Lightroom CC. “From a workflow perspective, converting is easier to do in Lightroom,” he says. Since in many portraits the lighting doesn’t change much across the course of the sitting, he does a lot of batch conversions, something at which Lightroom excels.

“I also use Lightroom before printing because its Export menu offers excellent control of output sharpening,” says Mfon.

Despite black-and-white’s attractions, the three photographers interviewed here also stressed that color has its place. “Color adds another

layer to the story you’re trying to tell about your subject,” says Dunea. “Sometimes that layer is relevant and informative, sometimes it’s not. Before I shoot, I ask myself if the person and the scene are best captured monochromatically or in color. It would be a sin to make a portrait of a person posed in a field of lavender in black-and-white, don’t you think?” she asks.

Baebler prefers color for fashion. “There’s so much detail in fabrics, hair, makeup, and the interplay between these elements against the skin that makes fashion a worthwhile subject for color,” he explains.

Getting Started

Interested in trying black-and-white portraits? Dunea suggests immersing yourself in the work of great monochrome portraitists. “Paolo Roversi, Vivian Meier, Irving Penn, David Bailey, and Hiroshi Sugimoto are some of the best sources of inspiration out there,” she says. Instagram has some wonderful

SEEN IN MONOCHROME

“I shot actor Stanley Tucci [above left] in black-and-white because the scene was monochromatic,” says Melanie Dunea. “There was no reason for color.” She used a Canon EOS-1DS Mark II and 85mm f/1.2L II USM Canon EF lens, exposing for 1/125 sec at f/5.6, ISO 100.

STRONG AND STRIKING

Dunea used black-and-white for chef Fergus Henderson (above right), for a more striking look than color was giving her. She exposed Ilford’s HP5 film for 1/250 sec at f/16, ISO 400.

black-and-white groups, too. Check out #bwportraits, #ic_bwportraits, and #show_us_bwportraits, for example.

Mfon recommends the book *Color Management and Quality Output* (Focal Press, 2014). Written by Popular Photography contributor Tom Ashe, it covers color, naturally, but there’s also a whole chapter on black-and-white, explaining conversion and monochrome printing techniques. Its chapters on calibrating and profiling monitors and setting up Photoshop and Lightroom correctly, as well as best practices for image editing often apply to black-and-white as well as color photography.

To inspire you on your way to monochrome shooting, remember the words of renowned photographer and portraitist Mary Ellen Mark, who primarily chose to shoot in black-and-white: “So often color gets caught up in color, and becomes merely decorative.” In other words, when you want to capture a portrait that goes to new depths, try your hand at monochrome.



**DIMINISH
DISTRACTIONS**
For actor Ian McKellen, Dunea chose black-and-white to draw attention to her subject—and not Times Square's riot of color. Shot with a Hasselblad 503 CW and 80mm f/2.8 lens.



Seriously Funny

Magnum shooter and master street photographer Martin Parr talks about how he puts humor in the picture.

Photos by Martin Parr; text by Meg Ryan



ON THIS afternoon in late December, Martin Parr is about to take off for holiday in India, but his mind is already on Cleveland.

The affable British photographer is going there and to Philadelphia for the Republican and Democratic national conventions, respectively, come July. A conversation about humor and irony in his work is on our agenda, but Parr wants to talk politics. Same difference.

"The Republicans, I think, are more photogenic, especially if you have crazy Trump as the candidate," he says. A twinkle in his eye hints he would look for-

ward to that particular spectacle. He asks after Bernie Sanders with similar delight.

Meanwhile, Parr scans his field of vision (my apartment, via Skype) for points of interest. "Who's that in the photograph behind you?" My parents. "Is that your cat? What's his name?" *Thelonious*. "Oh so you're a jazz fan, are you?" *Quite*.

Parr's cordial demeanor belies an inner perpetual motion machine, constantly seeing, continually traveling, noticing the mundane as if for the first time, and taking enough pictures along the way to amass an archive of

ENGAGINGLY ORDINARY

Facing page, clockwise from top left: Dudley Zoo, Midlands, England, 2013; Cheese tent at a summer fair, Somerset, UK, from *Think of England*, 2000; Breakfast, Benidorm, Spain, 2014; Nice, France, 2015; Kentucky Derby, 2015; Nice, France, 2015.

PARTY WITH THE PEOPLE

This page: A party in Wolverhampton, England, from *Black Country*, 2011. The locale is so called for the black soot from the ironworking foundries and forges in the 19th century. Today it's a working- and middle-class international melting pot.

more than 400,000 prints ("Most of them are bad," he says) at his London studio. He's published 83 books and catalogs (lately he averages about four per year) and has had hundreds of exhibitions in his almost 40-year career.

But don't assume that his whimsical interest in practically everything means he isn't serious. Parr is very serious; people just find him funny.

"Although I am creating entertainment, I am also trying to document things," he says. "Inevitably there's some ambiguity and contradictions that surface. My initial target is to create an entertaining picture, which may or may not have some kind of subtlety and some kind of message. If you look at what's going on in the world, the best way is to probably not take it too seriously."

While signposts of humor—ironic devices like juxtaposition, repetition, and understatement—are abundant in his work, Parr ultimately aims to create anti-propaganda. He says his images come from a place of sincerity and affection, and he avoids manipulating shots to affect an ironic pose. For instance, he



explains that his signature early saturated look, achieved with macro lens and ring flash, is simply an aesthetic preference, not part of the message. “It’s just a question of spotting what is real and sticking with it,” he says.

Such scrupulous sincerity yields its own kind of humor. Like watching a stand-up comedian, we laugh because what we see is so identifiably, messily human. Making mischief around human absurdities being a singularly English trait (see Monty Python’s *Flying Circus*, *The Trip*, Stewart Lee), Parr simply applies it to his work as well.

“I like people,” Parr says. “I am not just out there to set people up. If you just look around you will see absurd and wonderful behavior. I show the vulnerability in society without being entirely damning or cruel and then put it together and make some kind of statement.”

In his many travels Parr is keen to document the activities of tourists, who spend a lot of their

vacation time taking pictures. “If you go to a tourist location these days it’s the main activity,” he says. “You have to prove you have been there to all the friends back home. There are more photos of people taking photos now than there were 20 years ago because a lot of people are doing it.”

Most recently, they are doing it with selfie sticks—extendable monopods that clamp to a smartphone to enable snapping shots from distances beyond arm’s reach. “They are photogenic. People can’t get enough of them either,” Parr says.

The selfie stick solves photographic problems for him, too. In a blog post from May of last year he wrote: “Interestingly, you can get the whole scene in front of the camera and the backdrop all in one photo. Previously I had to make do with photos of people from behind as they looked at the view.”

The spine of this world traveler’s work—where his sense of humor, fondness for people, and



TOURISM AS SPECTACLE
Selfies at the Imperial War Museum, London, 2015. The selfie stick solves problems for tourist and photographer alike. “You can get the whole scene in front of the camera and the backdrop all in one photo,” Parr says.

incisive eye converge—lies in his home country. In 2006, Multistory, a nonprofit that commissions artists to create art with, about, and for the town of Sandwell, brought the Surrey native to the Black Country—traditionally an iron forging area near Birmingham—for a four-year project that led to *Black Country Magazine*; a book, *Black Country Stories* (2014); and an exhibition.

In his ongoing project *Think of England*, Parr has documented



PATE AND PARADE

Far left: From the stands at the Melpash agricultural show, Dorset, England, 1996. Much of Parr's work documents the everyday lives of his fellow Brits.

WARM AND FUZZY

A woolly hat, Eastbourne, UK, from *Think of England*, 2000.

aspects of British culture, including the working class, the middle class, and consumerism, since the 1980s. His next chapter will cover the entire UK and deal with the Establishment—government offices, public institutions, and the like. These settings provide ideal frameworks for unmasking human foibles and celebrating human... humanness.

"The world is both serious and ridiculous at the same time—yin-yang, you know," Parr says. "It's not just one thing or the other." When you show reality as it stands, both tend to show side by side. "So I am trying to be honest in myself on how I find and see things," he says.

Before he resumes his photographic saga through Britain, Parr has a plane to catch. What about India? "India is a wonderful, crazy country, so it's always good photographically," he says. It will be a working holiday—"which is often the case these days." Good thing. With so much to see and so many places to photograph, he says, "I could slip behind."

Don't Say Cheese

PARR'S AUTOPORTRAITS SERIES POKES FUN AT OUR LOVE OF NOSTALGIA

WORLD TRAVELER. Street photographer. Cheeky Brit. Put them together and you've got Martin Parr, ultimate tourist. For more than 25 years he has commemorated his adventures by having his portrait taken at the popular amusement attraction, at a local portrait studio, or even in photo booths. The resulting series he calls *Autoportraits*, collected in a recently updated book (Dewi Lewis, 2015), feature Parr at the Wisconsin State Fair, Parr training in martial arts with Vladimir Putin, Parr with Jesus, Parr looking pensive in a high school portrait pose, Parr trapped in a small bottle... You get the idea.

The *Autoportraits* project is an exercise in absurdity, pointing out how seriously we sometimes take ourselves. (The often disastrous attempts at touch-ups serve as a cautionary tale about the perils of overcorrecting your images.) Now 63, he's grayer, but the thing that never changes is his face's deadpan expression.

"I try to keep that consistent," he says. "Everyone smiles in photos. If I were smiling it wouldn't work as well. So the deadpan adds to the absurdity and humor."



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HANDS ON

WHO NEEDS FILM?

Fujifilm's new X-Pro2 brings the joy of film to digital

WHILE LEICA remains the only option for a real optical rangefinder in a digital camera, Fujifilm captured the attention of many rangefinder fans when

it introduced the X-Pro1 back in 2012. And the company has managed to keep the X-Pro1 body relevant much longer than some other manufacturers might have, thanks to its policy of using firmware updates to add features that were introduced on other

X-series cameras. But, as we enter the fifth year of Fujifilm's APS-C-format interchangeable-lens compact (ILC) system, it's time to refine the hardware.

With the new X-Pro2, slated to hit stores in late February with a street price of \$1,700 (body

FUJIFILM X-PRO2 KEY SPECS

SENSOR: 24.3MP
X-Trans CMOS III
(APS-C-sized)

SENSITIVITY:
ISO 100–51,200

BURST: Up to 8 fps

AUTOFOCUS: Hybrid
contrast/phase detect

PRICE: \$1,700, street,
body only

INFO: fujifilm.com



only), Fujifilm steps up to a 24.3MP X-Trans III CMOS sensor from the 16MP X-Trans CMOS in the original. The company says that the images captured with this new sensor can provide a perceived resolution beyond what you might expect given the pixel count.

While we haven't been able to run our full lab tests yet, since we didn't have the final RAW conversion software in time to make our press date, we were impressed with the amount of detail we saw in JPEG images, even at higher ISOs. Take, for example, the picture shown in the camera's LCD above: It was shot

with a preproduction sample of the X-Pro2 at ISO 12,800 and retains a remarkable amount of detail, even though it was taken through the window of a New York City subway car. (Look for full test results at PopPhoto.com/X-Pro2.)

Though we framed that shot on the camera's 3-inch 1,620,000-dot LCD, the X-Pro2 brings with it an upgraded hybrid viewfinder. Using a lever on the front of the camera, you can switch between an electronic viewfinder and an optical view that mimics a classic rangefinder. In that view, frame lines are projected on the finder to match the focal length you're using



to shoot. It automatically adjusts for parallax errors, so you'll notice that the bright frame moves a little bit as your focus shifts between near and far points. As with most rangefinders, there's a limit to the focal lengths that are compatible with this view, though the X-Pro2 can handle up to 140mm (210mm equivalent).

Since a big part of rangefinder shooting is manual focus, the X-Pro2 includes multiple ways to help you focus. The camera can display a magnified electronic view of your selected focus point in the lower right corner of the optical finder, or show a magnified view through the EVF view. You can also enable focus peaking, which will highlight the edges of subjects that are in focus in your choice of red, white, or blue.

If you're using a fully manual lens in focus peaking mode, you should know that the camera illuminates the edges of anything in the frame that is in focus. So, if you stop down to a small aperture such as f/8, you'll end up with a lot of highlighting in your frame. This can be helpful if you're trying to angle the camera to ensure that certain objects both near and far from the camera are within the zone of proper focus, or if you're wondering how far you need to stop down when focused to a particular distance. If you're using a lens that communicates with the body, such as a genuine Fujifilm X-series lens, you can display a distance scale that shows your depth of field as a bar on the scale—you won't see that through the finder of a Leica M.

What you can see through that Leica finder is a split image to help you focus. And you can find something similar in the X-Pro2's finder if you opt for the electronic split-image focusing aid. Used with either the EVF or the LCD, it fills a large portion of the center of the frame with four bars that shift horizontally as you focus. Align the images in the adjoining bars and

What's Hot
Excellent hybrid viewfinder; rugged, weather-sealed body design

What's Not
Must use menu to switch between ISO 25,600 and 51,200

Who It's For
Shooters looking for the best X-Series body Fujifilm makes

SPECIFICATIONS

IMAGING: 24.3MP effective, APS-C-sized-X-Trans CMOS III sensor captures images at 6000x4000 pixels with 14 bits/color in RAW mode

STORAGE: Dual SD, SDHC, and SDXC slots store JPEG, RAF RAW, and RAW + JPEG files

BURST RATE: Full-sized JPEGs (Fine mode), up to 83 shots at 8 fps; RAW uncompressed, up to 27 shots at 8 fps; RAW losslessly compressed, up to 33 shots at 8 fps

AF SYSTEM: TTL hybrid contrast/phase detection with 77 selectable areas; single-shot and continuous AF with focus tracking and face detection

SHUTTER SPEEDS: Mechanical: 1/8000 to 30 sec, plus B (1/3-EV increments); X-sync speed: 1/250 sec; 150,000-cycle rating

METERING: TTL metering with

256-zone evaluative, centerweighted, and spot (size of spot unspecified)

ISO RANGE: 200–12,800 in 1/3-EV increments, expandable to 100–51,200

FINDER: Optical: Reverse Galilean with electronic bright frame display; Electronic: 0.48-inch, 2,360,000-dot TFT LCD with 100% accuracy; 0.59X magnification

VIDEO: Records at up to 1920x1080p 60 in MOV (at up to 36Mbps); built-in stereo microphone; stereo microphone input

FLASH: No built-in flash

LCD: Fixed 3-in. TFT with 1,620,000-dot resolution; 11-step brightness adjustment

OUTPUT: Micro USB, micro HDMI video, Wi-Fi, PC Sync terminal

BATTERY: Rechargeable NP-W126 Li-ion, CIPA rating 250 shots

SIZE/WEIGHT: 5.5x3.3x1.8 in., 1.1 lbs with a card and battery

PRICE: \$1,700, street, body only

INFO: fujifilm.com

your focus will be correct. Press in the rear command dial and you can even zoom in on the split image to refine your focusing further. If you're using the optical finder, you can get a zoomed-in view of the center portion in the lower right corner of the finder, with the split-image focusing aid, by pushing the lever on the front of the camera toward the lens.

This and the small zoomed-in magnified view are new with the X-Pro2 and add greatly to the rangefinder-like feel of the camera. Plus, the split-image feature works fine even with lenses that don't communicate with the body. We were able to use an MS-Optics 35mm f/1.4 Apoqualia M-mount lens, with Fujifilm's M-mount adapter, and had no problems. MS-Optics lenses are handmade in Japan by a man named Miyazaki Sadayasu and contain no electronics at all. So, if the X-Pro2's split image works with that lens, it should work with any glass that can mount on the camera.

Even though the X-Pro2 looks a lot like its predecessor, Fujifilm improved the ergonomics. We were

pleased to see that the grip has been refined. It still isn't nearly as big of the grip as you'll find on a DSLR, but Fujifilm has carved out a ridge on the front side of the grip, similar to the one for your thumb on the back, that makes the X-Pro2 feel substantially more secure in the hand than the X-Pro1 did. It's also more comfortable to hold down at your

HYBRID FINDER

The image below shows the light path of the X-Pro2's hybrid optical/electronic viewfinder.



side when not shooting, which can be advantageous to street shooters who might be trying to blend into the crowd between shots. (For a more pronounced grip, Fujifilm also offers an accessory, though the price has not yet been set.)

More important to the shooting experience is the new joystick on the camera back. As you can with high-end Canon and Nikon DSLRs, this lets you easily move your autofocus point around the frame. It's hard to underscore just how convenient it is to be able to shift through AF points this way and we truly enjoyed our time with the X-Pro 2. Furthermore, the number of selectable focus points has increased to 77 from 49.

As if we needed another way to evoke the cameras of the film days, the X-Pro2 embeds a dial to adjust ISO into the shutter-speed dial. Lift up while grasping the edge of the dial and then turn to change your sensitivity. We could practically smell the fixer every time we changed the ISO. The new mechanical shutter goes up to 1/8000 sec and flash sync is set at 1/250 sec.

With two pages of menu items for button and dial settings, there's a healthy amount of customization possible with the X-Pro2. You can swap the functions of the two command wheels, switch the direction of the focusing ring for Fujifilm's electronically controlled manual-focus lenses, swap the autofocus and autoexposure lock buttons, and assign any of 26 different functions to one of the six custom function buttons.

If you enjoy Fujifilm's film simulation modes, you'll want to give the new Acros mode a try. It is meant to evoke the feel of the company's monochrome celluloid with smooth tonal gradations, deep blacks, and detailed textures. As you can with the standard black-and-white film simulation mode, you can also simulate yellow, red, and green filters to enhance contrast, darken



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skies, or enhance skin tones. (We used it with the yellow filter for the LCD image on page 65.)

Even if you don't want to use the JPG that the camera produces, you can shoot in RAW+JPG and get a rough idea of a monochrome output as you shoot. Using that approach will also let you preview in black-and-white if you use the EVF. If you're not familiar with the film simulations, you can set the X-Pro2 to do film simulation bracketing, which generates multiple versions of the same image with different simulation settings so you can choose your favorite.

One of the things most people love about Leica rangefinders is that they are built like tanks. While modern, electronic cameras can't match the ruggedness of the fully mechanical cameras of yesteryear, the X-Pro2 is built to last. The body is made of magnesium alloy. The dials on top of the camera are milled from

aluminum, and there are 61 weather seals to fight dust and water.

We found very little to complain about, though the X-Pro2 is obviously not the best camera for every shooter. It wouldn't be our first choice for very critical sports photography. Though its burst rate of 8 frames per second for up to 83 JPGs or 27 uncompressed RAW frames is certainly enough for most casual, and even some serious, sports shooters, its AF tracking options don't match the top you can get from Nikon and Canon. In our field use the camera tracked subjects well, but pro-level (and significantly more expensive) DSLR bodies have an edge in this area.

Our one gripe that would be echoed by nearly any shooter is that the ISO dial gives you only one option for the sensitivity setting above ISO 12,800. Since it has one high setting, marked with an H, you have to choose if you want this

GO WIRELESS

Though we couldn't use the preproduction sample with the Fujifilm app, the final version of the X-Pro2 will be able to send images to and be controlled by your smartphone.

to be ISO 25,600 or ISO 51,200. To change it, you have to go to the ISO dial setting in the menu page for buttons and dial settings that you access through the Set Up menu.

Fujifilm has built an extremely nice camera in the X-Pro2, and in the system's fifth year has built out a good and still-growing selection of glass for it. This is further bolstered by the optics offered by third-party lensmakers, underscoring the popularity of the system. Add the ability to use adapters to mount a wide array of manual lenses and you've got more than enough choices to keep you shooting for a long, long time. Of course, we could have plenty of fun photographing the rest of our days with Fujifilm's own 14mm f/2.8, 35mm f/1.4, and 56mm f/1.2 primes. If you need us, we'll be traveling the globe and peering through a hybrid finder.

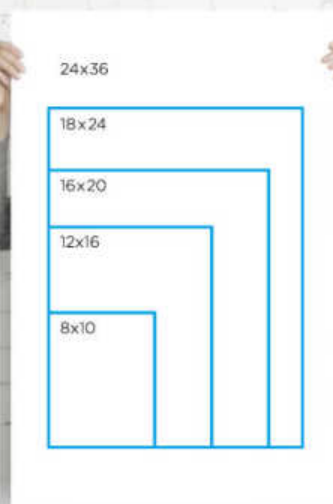
—Philip Ryan

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This easy-to-use inkjet is sure to impress

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WHEN CANON announced its new imagePrograf Pro-1000 this fall, we were excited to see another addition to the world of professional desktop printers. Until 2015, we'd seen very little development there: A little less than a year ago Epson rolled out its 17-inch SureColor P800, the company's first release since 2011's Stylus Pro 3880. And until Canon announced the Pro-1000 last fall, its most recent comparable printer was the iPF5100 from way back in 2007. Aside from many updates, this new inkjet is also several hundred dollars less expensive than its older sibling, retailing for \$1,300.

The textured finish and the red line that runs across the front of the Pro-1000—very deliberate design decisions—are meant to remind you of Canon's L-series lenses. While Canon has used the imagePrograf moniker since 2006, the Pro appellation represents a shift in the company's approach to

making printers that's evidenced in the design change. The Pro-1000 is jet-black, sleek, and reminiscent of Canon's cameras, whereas its older line of printers adopted a more industrial appearance.

In many ways it is a larger and better-performing version of Canon's smaller inkjet photo printer, the 13-inch Pixma Pro-1 introduced in 2011. Both use the same 12-cartridge Lucia inkset, which includes the company's Chroma Optimizer, though the new printer sports significantly larger tanks. In addition, the Pro-1000's newly designed print head is 50 percent larger than the one in the Pro-1, packing 18,423 nozzles into 1.28 inches of space. And it can lay down 32 million droplets of ink per second.

We decided to run this new printer through a variety of real-world trials as well as standard color-rendering assessments in the Popular Photography Test Lab.

KEY SPECS

MAX. PAPER SIZE: 17x129 in.

CALIBRATION: Built-in color density sensor

MEDIA SUPPORT: Separate rear feeder for paper over 300 GSM

PROCESSING: New L-CAO processing engine

PRICE: \$1,300, street; replacement inks, \$60; Chroma Optimizer, \$55

INFO: usa.canon.com

What's Hot

Enhanced L value in darker tones for better contrast

What's Not

Uses color inks when printing black-and-white

Who It's For

Shooters looking for a pro-level desktop inkjet

Setup and Speed

The imagePrograf Pro-1000 looks great, but is by no means a small device. Your desk will have to accommodate its 28-inch width and support its more than 70-pound weight. When extended, the front tray sticks out some 16 inches from the face of the printer and the rear sheet feeder, when fully opened, adds about another 6 inches to the depth. However, both of these fold unobtrusively in the Pro-1000 when not in use, giving it a neat, unified appearance.

Setup proved fairly painless and straightforward—you can do it yourself, provided you can lift a 70-pound box. Unlike Epson printers, the Pro-1000 ships without its print head installed. Don't be intimidated, though: Canon makes installing the head as easy as popping in a new ink tank. Downloading the requisite software and drivers is a simple procedure that will most likely take less time than

SPECIFICATIONS

MAXIMUM PAPER SIZE: 17x129 inches (through all feed paths)

INK TYPE: Pigment-based

INK TANKS: 12-cartridge Lucia Pro inkset (80ml each): matte black, photo black, cyan, magenta, yellow, photo cyan, photo magenta, gray, photo gray, red, blue, Chroma Optimizer

MEDIA THICKNESS (CUT-SHEET ONLY): Rear tray: Up to 0.3mm. Manual feed slot: 0.1–0.7mm

RESOLUTION: Up to 2400x1200 dpi

(color and black)

INTERFACES: 3-inch color LCD panel, Wi-Fi, USB 2.0, Ethernet

COMPATIBLE WIRELESS

PRINTING SOFTWARE: Canon's Print App (iOS and Android) Wireless PictBridge, Apple AirPrint, and Canon Picta Cloud Link

SOFTWARE: Print Studio Pro v2.0 plug-in for Adobe Photoshop and Lightroom (Mac/Windows)

DIMENSIONS: 28.5x17x11.2 in.

STREET PRICE: \$1,300

INFO: usa.canon.com

PRINTING TIMES

PAPER SIZE	TIMES (MIN:SEC)	QUALITY
8.5x11 inches	2:18	Best
8.5x11 (borderless)	3:05	Best
13x19 inches	5:56	Best
13x19 (borderless)	5:59	Best
17x22 inches	7:40	Best
17x22 (borderless)	8:32	Best



removing the many, many pieces of tape that keep the printer's various parts from moving during shipping. Be sure to inspect every inch of this printer after unboxing, since you will find small plastic tabs and rectangles of tape in the damndest places.

Once you connect the Pro-1000 to a computer, working with the printer itself is a simple matter of navigating its pared-down menu options. Unlike some inkjets that bury important functionality within hard-to-find submenus, the Pro-1000 makes essential actions like head-cleaning and color-calibration easy to perform. When working with various paper

surfaces and weights, the Canon helpfully alerts users which of the printer's feeds should accept the paper. What's more, selecting a paper type is a breeze compared with Epson's rather presumptuous system that involves the printer first trying to guess the surface of paper being fed into it. The Pro-1000's paper selection process has the added advantage of also relying less on proprietary paper types and naming conventions. In fact, Canon specifically designed the printer to easily accommodate papers from a variety of manufacturers, though Canon surely would prefer that users buy its house brand. (We tested the printer's per-

formance on several surfaces and sizes of Canon paper.)

For our print speed tests of the Pro-1000, we connected the printer via a USB 2.0 cable to a 3 GHz Intel Core i3 Apple iMac with 4GB of RAM and clocked printing times on three standard sizes of Canon's Plus Semi-Gloss paper. Using Adobe Photoshop CS6, we printed bordered and borderless images at 8.5x11, 13x19 and 17x22 inches on the Pro-1000's Best (highest-resolution) setting. While we were not unhappy with the speeds at these sizes, they differed substantially from Canon's stated print times for Canon Pro Luster paper, which we found to be not entirely unlike its Plus Semi-Gloss: Canon lists only that the Pro-1000 can produce a 13x19-inch print in 2.5 minutes and a 17x22 in just over 4 minutes. While this may be true, it may only be possible using the printer's lower resolution settings. When set to Best mode, we found that the new Canon took just under 6 minutes to yield a 13x19 print and between 7.5 and 8.5 minutes for a 17x22-inch print on average. See the table at left for more speed test results.

The Pro-1000 is designed exclusively for use with cut-sheet, not roll paper, and print speeds on this order aren't a big problem since it's not intended for high-volume industrial output.

We found only one major hiccup in printing with it. A flap-like door, that feels much like an afterthought, must be closed over the primary paper feed before printing can begin. Our timing tests were interrupted more than once because this flap was not in place, causing us to restart our print queue several times.

Photo Print Quality

Like the Pixma Pro-1 before it, the Pro-1000 uses the 12-color Lucia Pro inkset. One of those cartridges contains a special liquid Canon

GET INKED

This is the second printer to make use of Canon's Lucia ink set. This 12-cartridge set includes 4 monochromatic inks, one Chroma Optimizer to reduce metamerism and the other usual suspects in the CMY range.

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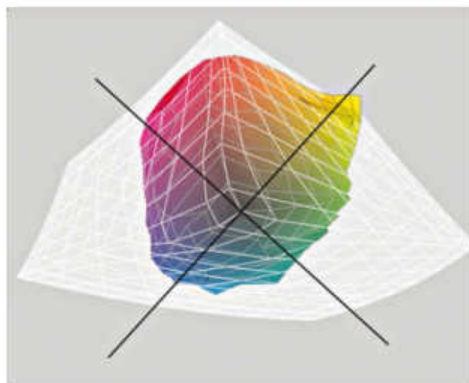


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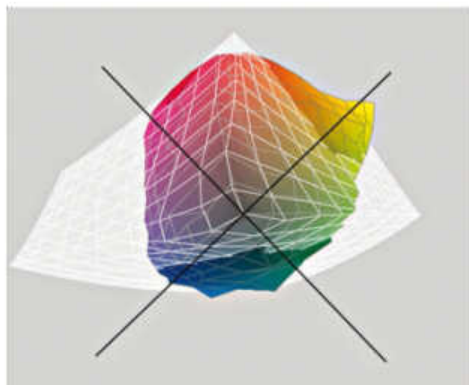
Size		Size	
5X5	\$19.95	8" Heart	\$24.95
5X7	\$19.95	11" Heart	\$29.95
7X30	\$49.95	16" Heart	\$59.95
8X8	\$24.95	8" Circle	\$24.95
8X10	\$24.95	16" Circle	\$59.95
8X12	\$29.95	8x12 Oval	\$29.95
11X14	\$39.95	11X17 Oval	\$44.95
11X17	\$44.95	16X24 Oval	\$79.95
12X12	\$39.95	8X12 Shape 1	\$29.95
12X36	\$99.95	11X17 Shape 1	\$44.95
16X16	\$59.95	16X24 Shape 1	\$79.95
16X20	\$69.95	8X8 Shape 2	\$24.95
16X24	\$79.95	16X16 Shape 2	\$59.95
20X20	\$89.95	20X20 Shape 2	\$89.95

Prices subject to change. Additional sizes found on website

Canon Photo Paper Pro Premium Matte

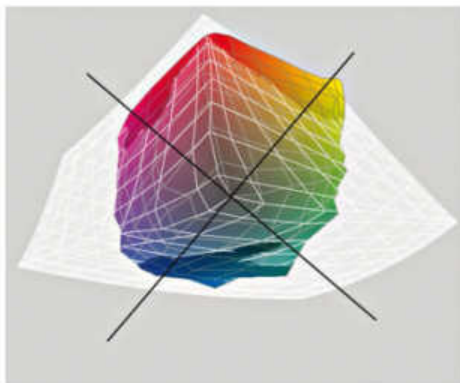


Paper Gamut (in color) compared to Adobe 1998 RGB

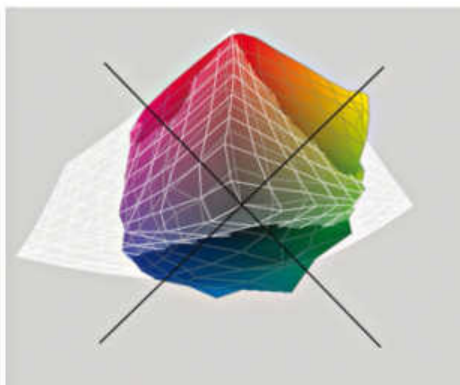


Paper Gamut (in color) compared to sRGB

Canon Photo Paper Pro Luster



Paper Gamut (in color) compared to Adobe 1998 RGB



Paper Gamut (in color) compared to sRGB

calls Chroma Optimizer. This is formulated to reduce metamerism, a color shift caused by the reflective properties of glossy papers. After running our timing tests with Canon's Pro Semi-Gloss paper, we were surprised to have blown through almost a full cartridge of the stuff. Those who prefer glossier papers would do well to stock up.

Among the other 11 cartridges in the Lucia set are a photo black and a matte black. Both have dedicated ink lines, saving you time and money by keeping the printer from having to flush a single black ink line when changing between photo and matte, as is common in many Epson printers. In the monochromatic department, however, Epson has a leg up on Canon: The Pro-1000 is designed to use its color cartridges in tandem with its monochromatic ones when printing black-and-white images. Sticklers for purely neutral monochrome

prints may be let down, but we were impressed with the printer's ability to render rich blacks.

In the Popular Photography Test Lab, we compared the Pro-1000's color rendering capabilities with industry-standard color gamuts. Using an X-Rite Eye-One iSis profiling device, we created custom ICC color profiles of Canon's Pro Premium Matte and Pro Luster papers. We were then able to analyze computer models of each profile's color space using Apple's OS X 10.5 ColorSync Utility. For comparison, we put both profiles up against the Adobe 1998 RGB and sRGB color spaces. The former encompasses about 50 percent of visible color while the latter represents only about 35 percent and is reflective of the average computer monitor's ability to render color.

Predictably, we noticed that Canon's Pro Luster paper yielded greater overall contrast than the

COLOR GAMUTS

The white, tent-like shapes in these gamut maps show portions of colors visible to the human eye encompassed by two industry-standard reproducibility metrics or color spaces; Adobe 1998 RGB (top row) is more comprehensive than sRGB (bottom). The colorful spots inside indicate those colors that we found the Pro-1000 could reproduce on Canon's papers.

Pro Premium Matte—matte papers are known for producing flatter, lower-contrast images.

In the table at left you can see our comparison results. Each of the four graphics is a snapshot from a volumetric model that overlays one 3D rendering of a color space with another. The colorful areas depict the hues that the Canon papers can reproduce, whereas the lighter ones show the colors that comprise the industry-standard RGB gamuts we compared them to.

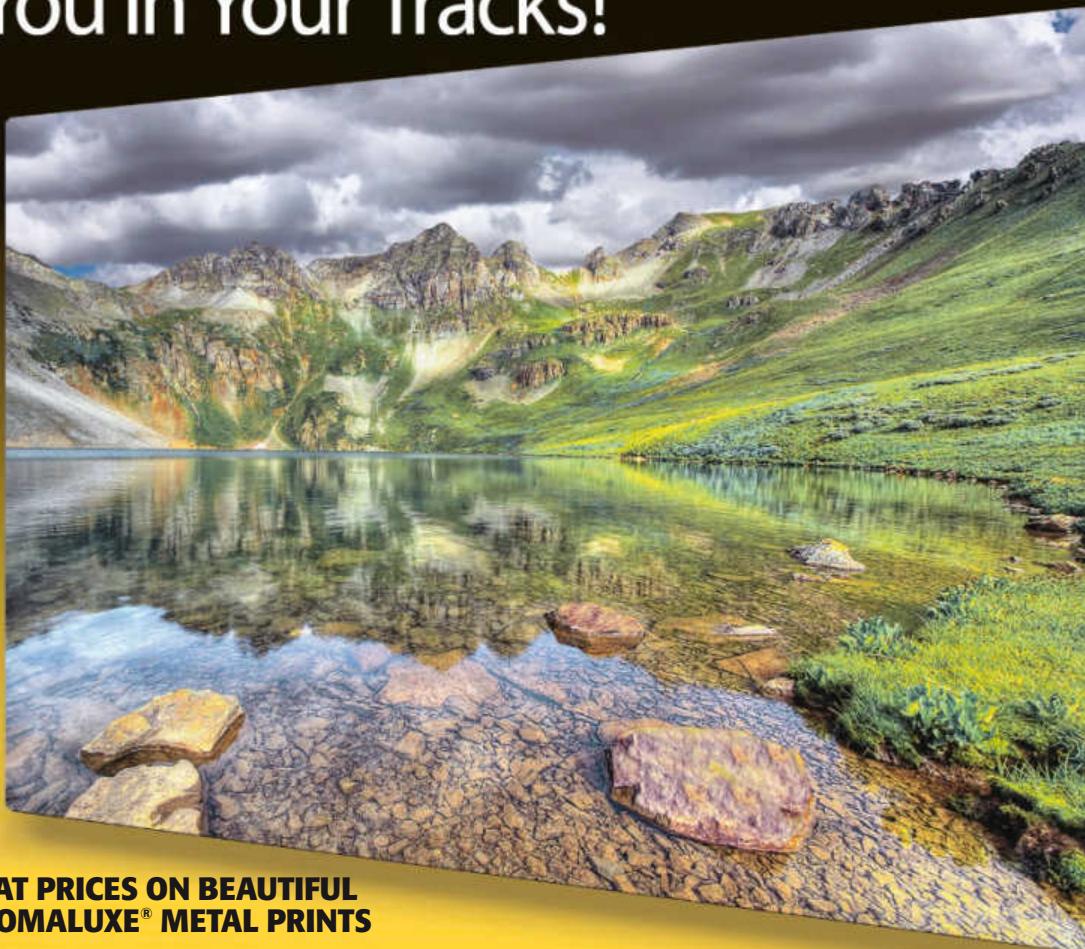
That said, both of the Canon papers we tested exhibited excellent ability to render light-yellow and light-green colors, consistently rendering hues not achievable by either Adobe 1998 or sRGB. Likewise, both papers produced rich dark-greens and dark-blues in addition to vibrant magentas, colors that again exceeded the boundaries of Adobe 1998 and sRGB. We were quite pleased with the prints that the Pro-1000 churned out and had no qualms with its color accuracy or its contrast, which both looked good on the one-off prints we made. Using Canon's papers, we think you'll like how it renders images you see on your computer monitor. Just remember: Getting a great print usually involves making more than one!

Bottom Line

Canon's imagePrograf Pro-1000 isn't the first printer of its kind, but it is a breakthrough for Canon. This printer's easy set-up, pared-down menu options, print speed, and color rendering capabilities are more than enough to give Epson a run for its money. Plus, innovations like Chroma Optimizer and dedicated lines for black inks should keep competitors on their toes. For photographers looking for a well-priced inkjet photo printer for a small studio or home office, we think this one might just be a silver bullet.

—Adam Ryder

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Aspen Photo Art by Larry Bennett Clear Lake Colorado sets above timberline, about 13,000 ft. close to the old mining town of Silverton. This image is a 7 exposure HDR, shot early morning, Summer of 2012, with 24-70mm zoom on a Canon 7D.

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PRIME TIME

A moderate telephoto for mirrorless ILCs

WITH THE growing adoption of interchangeable-lens compacts, lens makers are churning out glass. One recent release is Rokinson's 50mm f/1.2 AS UMC, a fast optic that ships in four mounts: Canon EF-M, Fujifilm X, Micro Four Thirds (for Olympus and Panasonic), and Sony E. Depending on the mount, this \$549 (street) lens is the full-frame equivalent of a 75mm (on APS-C-sized sensors) or 100mm (on Four Thirds). It comes in black or, for all mounts save the Canon, in silver.

Like all Rokinsons, it can only be focused manually—no autofocus. The 62mm filter mount does not rotate, good for use with a polarizer. Its optical formula comprises nine elements in seven groups, including a pair of aspherical elements to cut chromatic aberration. A new ultra multi-coating on the front is designed to reduce flare and ghosting.

This 50mm lens balanced nicely on our test body, the Fujifilm X-T1. It's nearly a quarter-inch longer than the Fujifilm 56mm f/1.2 but it weighs slightly less. True to the ILC ideal, it's much smaller than full-frame lenses with equivalent focal lengths. We appreciated its smooth turning radius of 160 degrees, less than the Fujifilm's long 220 degrees. The focusing numbers on the barrel, marked in feet (orange) and meters (white), are large and easy to read.

An improved hood, included with the lens, snaps on very securely. We were initially afraid to push it too hard, but after applying some elbow grease, we were impressed by how nicely it locked into place.

In the Popular Photography Test Lab, the lens performed quite well. Its SQF scores for sharpness and

contrast were excellent—very similar, in fact, to its next-closest competitors, the Fujifilm 56mm lens and the Pentax 55mm f/1.4 DA* smc SDM (for DSLRs).

In our tests using DxO Analyzer 5.3, the Rokinson returned distortion results in line with the Fujifilm and slightly better than the Pentax (0.09%), garnering a 0.03% Imperceptible rating for barrel distortion—practically nonexistent. Vignetting disappeared by f/1.8, better than the Pentax (gone by f/2), though not up to the Fujifilm, which was entirely free of light falloff. It resolved subjects as near as 19.62 inches, very close for an 85mm equivalent. Maximum magnification, 1:7.49, beat the Fujifilm's 1:9.66; the Pentax, however, beat them both at 1:5.26.

Comparisons to other lenses are tough, since almost nobody else makes a fast 50mm prime specifically for ILCs. So we also put this lens up against a number of full-frame 50mm f/1.4 optics from Canon, Nikon, Rokinson, Sigma, and Zeiss (Milvus and Planar versions). While our SQF results were all similar, our distortion findings differed for the full-frame lenses: Most were

SPECIFICATIONS

50MM (49.88mm tested), f/1.2 (f/1.21 tested), 9 elements in 7 groups. Focus ring turns 160 degrees.

DIAGONAL VIEW ANGLE: 31 degrees

WEIGHT: 0.86 lbs **FILTER SIZE:** 62mm

MOUNTS: Canon EF-M, Fujifilm X, Micro Four Thirds, Sony E

INCLUDED: Lenshood, lens pouch

STREET PRICE: \$549

INFO: rokinon.com

TEST RESULTS

DISTORTION: 0.03% (Imperceptible) barrel

LIGHT FALLOFF: Gone by f/1.8

CLOSE-FOCUSING: 19.62 inches

MAX. MAGNIFICATION: 1:7.49



What's Hot
Close-focusing
and low price

What's Not
It's manual-focus only

Who It's For
Mirrorless camera users looking for an inexpensive prime

in the Slight range, while Rokinson's own full-framer hit Visible. But on a smaller APS-C or Four Thirds sensor, edge distortion may be cropped out.

Rokinson lenses are always priced reasonably low and this one is no exception. Going for \$549 (street) with the hood and quilted pouch, this 50mm f/1.2 costs nearly \$250 less than the Fujifilm 56mm, and it's cheaper than some of the 50mm full-framers by at least \$400. Of course, all of these others all have autofocus, which has major advantages for many shooters. But with this kind of test performance, if you don't need AF, this Rokinson is a bargain that shouldn't be missed. —Julia Silber

SUBJECTIVE QUALITY FACTOR

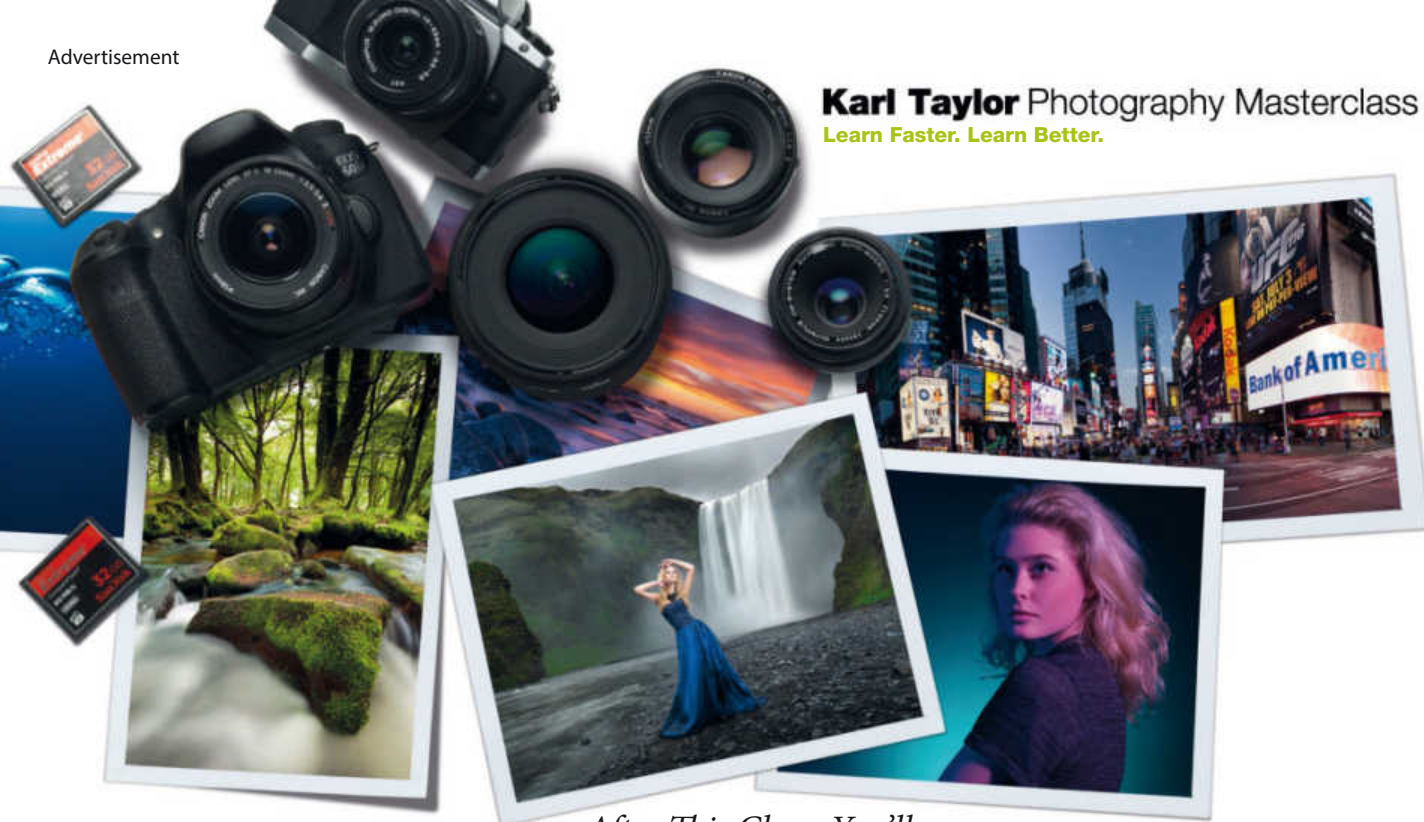
Our standard lens test, SQF rates sharpness by print size

Size	5x7	8x10	11x14	16x20	20x24
1.2	86.3	90.2	92.4	96.4	78.7
1.4	86.2	89.1	92.2	96.0	78.1
2.0	86.8	89.5	93.0	97.7	81.0
2.8	87.1	89.2	94.0	98.7	84.2
4.0	87.2	89.4	94.3	99.1	84.9
5.6	87.3	89.7	94.8	91.1	86.5
8.0	87.7	87.3	95.3	92.1	88.1
11.0	87.4	86.8	94.8	91.1	86.5
16.0	86.7	86.7	93.4	88.6	82.5

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What's the secret of the world's best photographers? Why do their photos look so much better than everyone else's?

Some people say it's because of their expensive cameras, but that's not the reason. I own a \$25,000 Hasselblad and while a top-notch camera certainly helps, it's not the biggest dividing line between average photos and the best photos.

Don't believe me? Try this: Give a top photographer a \$60 point-and-shoot and give a new photographer a \$25,000 Hasselblad. Then send them out to shoot a day at the park.

What will happen? The pro will win on every shot.

In fact, I've demonstrated this over and over again on my YouTube channel. In one video I crafted a shoot using nothing more than cheap Ikea lamps for lighting and an old Canon DSLR.

Look, here's the truth: Of course the camera matters. But not nearly as much as people think.

When you are shooting for mega-brands

like Armani and are producing photos that will appear in advertising campaigns across the globe — yes, the camera matters.

But if you're reading this, I'm guessing that you don't have a highly publicized ad campaign on the radar (yet). Instead, you just want to:

- *Stop relying on automatic modes and feel confident in manual*
- *Take interesting photos instead of shots that blend in with everyone else's on Facebook*
- *Have more fun and creativity in your photography*

If you stick with me, all of those goals are easily attainable. You'll be able to look anyone square in the eye and without hesitation say, "I am a photographer."

Why is it such a struggle to take photos that really stand out?

DSLRs have been of enormous benefit to the world of photography, but they've also caused a bloody awful problem. Camera manuals are over 200 pages long and a DSLR has become more like a supercomputer with a lens.

Now that is great for people like me who have spent decades taking photos and who already fully understand the core principles and fundamental workings of photography

But for most amateurs, and even many pro photographers, these state-of-the-art cameras can do more harm than good.

Too many settings can create absolutely terrible habits, like unbalanced photos and weak composition. I can easily spot a photo taken by a high-end camera with an inexperienced photographer behind it — the photograph lacks emotion.

So please take my advice: Just because you

have hundreds of settings on your digital camera, that does not mean you need to learn all of them. In fact, you could go your entire career and never learn all your camera's setting, while consistently taking photos that get "oohs" and "aahs."

In my training, instead of telling you about every single setting on your camera (like some "experts" do), the skills I teach will quickly get you shooting like a pro with any camera, and your skills will still be relevant even when a new type of camera (with new features) comes to the market.

Here's the reason my process works so well. Although cameras get reinvented every few years, the human eye hasn't changed in thousands of years. And what's pleasing to the eye today will be pleasing to the eye for as long as you or me live.

In my course you'll learn a different way... And when you complete it, instead of struggling to find a good shot, the opportunities will flood to you like a tidal wave. You'll notice these golden opportunities as you run your daily errands. That's because you've internalized what I taught you are you're now thinking like a photographer. **That's what really makes a great photographer, after all. Not your camera, but your mind.**

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C Nikon AF-S NIKKOR 300mm f/4E PF ED VR
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D Oben CT-2491 CF Tripod and BC-166 Ball Head
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\$669⁹⁵

E Sony Alpha A7S Mirrorless Camera
#SOA7SB
\$2,198⁰⁰

F Zeiss 135mm f/2 APO Sonnar T* ZF.2 Lens
#ZE1352ASZFN
\$2,122⁰⁰

G Litepanels Astra 1x1 Bi-Color LED Panel
#LIA1X1BC
\$1,350⁰⁰

H Canon EOS 5DS DSLR Camera
#CAE5DS
\$3,699⁰⁰

I Panasonic Lumix DMC-GH4 Camera with Interface Unit
#PADMCGH4BK
\$2,297⁹⁹

J BDR Solo Quadcopter Drone (No Gimbal)
#BDRSOLO
\$999⁹⁵

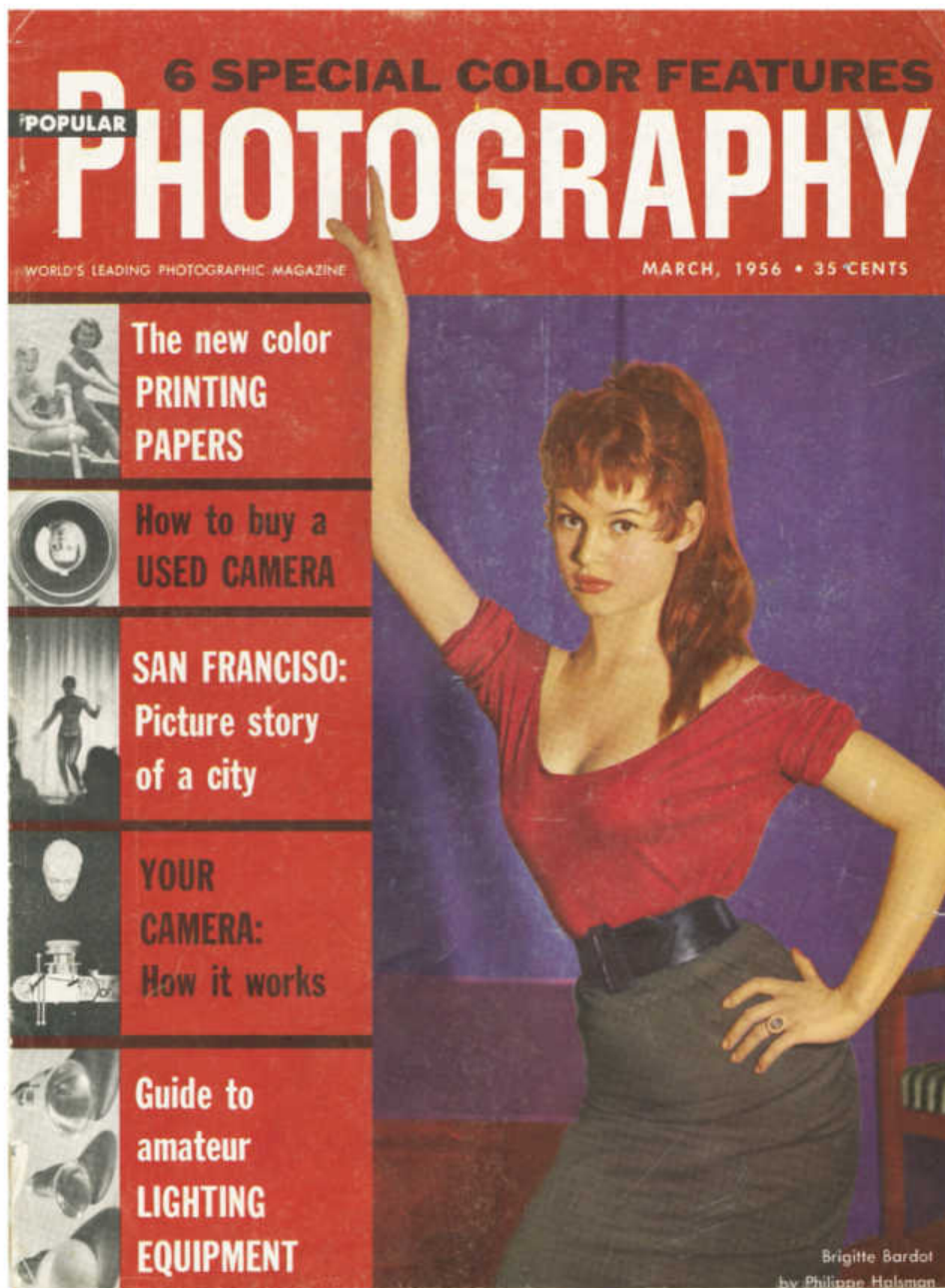
K Nikon D750 DSLR Camera with 24-120mm Lens
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L DJI Inspire 1 Quadcopter 4K Video and 3-Axis Gimbal
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Not-Yet-Famous Face

Brigitte Bardot at age 21 was described by photographer Philippe Halsman as one of the most provocative women he'd ever seen. This month's cover would confirm this opinion. Halsman took this photo in Bardot's apartment using a 5x7 Portrait Graflex with a Bausch & Lomb 10-inch f/4.5 lens on Kodak Ektachrome film. Four Ascor Speedlights provided the light for an exposure at f/16.

60 YEARS AGO

We ran a feature on the then-young photographer Hugh Bell and his impactful shots.



East German SLR

While the East German 35mm Praktina fell short of "The Ultimate Fulfillment," as this ad called it, the camera was a respectable entry into the SLR market. But the Japanese camera makers did it better; the Praktina barely held its own as the SLR market boomed, with Nikon, Canon, and Pentax setting the bar for quality.



Once Around the Block

Economy-minded photographers could save money searching the used camera market. Marvin Rubin offered timely, worthwhile tips on how to check out a used camera before you leave the store and discover the apple of your eye is actually a lemon.

Swiss-Eye View

When a leading Swiss editor of *Du* magazine, who is also a gifted photographer, came to New York, the result was bound to include unusual photos such as this worm's-eye view of Rockefeller Center. Emil Schulthess used a camera of his own design with a 38mm Beck f/7 lens and a 4x5 view-camera back to produce this circular 180-degree view.



—Harold Martin

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LOT 69031/69030 shown

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- Weighs 32 lbs.

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69053/62160
62496/62516
60569 shown

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60 LED SOLAR SECURITY LIGHT
Gambler Hill Security

LOT 61524/62534
65943 shown

SAVE 54%

comp at \$69.99

Includes 6V, 3000 mAh NiCd battery pack.

Customer Rating

LOT 69115/69137
69249/69129/69121
877 shown

7 FT. 4" x 9 FT. 6" ALL PURPOSE WEATHER RESISTANT TARP

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Customer Rating

comp at \$9.38

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WOW SUPER COUPON

8750 PEAK/7000 RUNNING WATTS 13 HP (420 CC) GAS GENERATORS
PREDATOR

Customer Rating

LOT 68530/63065
63086/63071 shown

SAVE \$450

comp at \$999

• 76 dB Noise Level

LOT 68528/59677
63087/63088 shown

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CHICAGO ELECTRIC

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4-1/4" grinding wheel included

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WOW SUPER COUPON

1500 WATT DUAL TEMPERATURE HEAT GUN
drillmaster

Customer Rating

LOT 62340/62344/63104/62349 shown

SAVE 70%

comp at \$29.97

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• Lifetime Warranty on All Hand Tools

SCISSOR SUPER COUPON

TORQUE WRENCHES
PITTSBURGH

Customer Rating

LOT 61613/66221 shown

SAVE 60%

comp at \$29.99

Accuracy within +5%

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WOW SUPER COUPON

2.5 HP 21 GALLON, 125 PSI VERTICAL AIR COMPRESSOR
CENTRAL REMARK

Customer Rating

LOT 61454/61693/62803 shown

SAVE \$249

comp at \$499

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18" GENERAL 26" 16 DRAWER ROLLER CABINET
PITTSBURGH

Customer Rating

LOT 61609
617831 shown

SAVE \$638

comp at \$952.99

• 1060 lb. capacity

• 14,600 cu. in. of storage

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WOW SUPER COUPON

1 TON CAPACITY FOLDABLE SHOP CRANE
PITTSBURGH

Customer Rating

LOT 69445/93840
61858/69512 shown

SAVE \$169

comp at \$269

Includes Ram, Hook and Chain

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SCISSOR SUPER COUPON

29 PIECE TITANIUM NITRIDE COATED HIGH SPEED STEEL DRILL BIT SET
PITTSBURGH

Customer Rating

LOT 61689
62281 shown

SAVE 76%

comp at \$13.99

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2500 LB. ELECTRIC WINCH WITH WIRELESS REMOTE CONTROL
PITTSBURGH

Customer Rating

LOT 61258 shown

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THIRD PLACE

\$1,000 cash award

FOURTH PLACE

Five \$125 awards

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Honorable Mentions will receive a gold-embossed certificate of merit from Photographer's Forum and will be listed in the November 2016 issue of the magazine.

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PARTICIPATION GIFT

All US and Canadian entrants will receive **Two Free Issues** of Photographer's Forum Magazine.

- Finalists notified by July 29, 2016.
- Winners notified by Aug. 12, 2016.

* Lens award for US residents only.
First and Second Place winners in all other countries will receive additional award of \$500 in lieu of lens.

WINNING PHOTOS

will be published in the November 2016 issue of **Photographer's Forum**. All contest finalists will be published in the hardcover book, **Best of Photography 2016**.

FEES, DEADLINES

Early Entry fee is \$4.95 per photo entered (postmarked or uploaded by **April 15, 2016**).

Regular Entry fee is \$5.95 per photo entered (postmarked or uploaded by **May 20, 2016**).

ENTER ONLINE at:
pfmagazine.com/pp

TO ENTER BY MAIL:

- Enter BW or color prints or slides. **Do not send disks.**
- Prints must be unmounted 9x12 or smaller.
- Label every photo with your name and address, and indicate which edge is the top.
- All entries must include payment, entry form, and photographs.
- Enclose a self-addressed, stamped envelope for return of work. Work will be returned after 9/01/2016.
- Rights remain with photographer.
- Subject matter is open.

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ENTRY FORM

☐ YES! I would like to enter the contest. I am enclosing \$4.95 per photo entered (early entry date), or \$5.95 per photo entered (final entry date). Please consider my work for publication in future issues of **Photographer's Forum** magazine. Please send me the next two issues of **Photographer's Forum** (US & Canada only).

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ADDRESS _____

CITY _____

STATE _____ ZIP _____ PHONE _____

E-MAIL _____

☐ Check or money order enclosed (U.S. funds only), made payable to Photographer's Forum.

☐ MASTERCARD ☐ VISA EXP. DATE _____

ACCOUNT NO. _____

CARDHOLDER SIGNATURE _____

To enter by mail, send prints or slides to **Photographer's Forum**, 813 Reddick Street, Dept. 1, Santa Barbara, CA 93103. **Photographer's Forum** reserves the right to publish all contest winners and finalists. Although caution will be exercised with all work, **Photographer's Forum** is not responsible for damage.



MICHAEL MULLER/GPI-SYNDICATION

LEMON SHARKS
Photo reprinted from *Sharks: Face-to-Face with the Ocean's Endangered Predator* by Michael Muller (Taschen, 2016; \$70), with essays by Philippe Cousteau, Jr., Alison Kock, and Arty Nelson.

RISKY DIVER

Face your fears camera-first

I'VE ALWAYS held a huge fear and fascination with sharks since I was young. Growing up surfing

in shark-infested waters left a huge imprint on my life. From the moment I laid eyes on that first great white I was obsessed with learning all I could about these animals. This image, taken

in the Bahamas, is of a pack of lemon sharks mid-feeding-frenzy. I love the colors of this shot and the tornado-like circle the sharks formed while feeding.

—As told to Sara Cravatts

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don't have enough lenses.

Image shot with the Olympus OM-D E-M1 and an M.Zuiko ED 8mm f1.8 Fisheye PRO Lens
by Olympus Visionary John Sterling Ruth.

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